







# **Political Knowledge in the Czech Republic**

**Pat Lyons**



**POLITICAL KNOWLEDGE**

**IN THE CZECH REPUBLIC**

**Pat Lyons**

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# Introduction

[...] knowledge itself depends in a great measure upon the degree of interest which the individual has in obtaining it: he who possesses the greatest interest will apply himself with the greatest attention and constancy to obtain it.

Jeremy Bentham (1843: 43)

[I]t is irrational to be politically well-informed because the low returns from data simply do not justify their cost in time and other resources.

Anthony Downs (1957: 259)

We humans seem to have evolved with a need to know, a need to represent reality to ourselves insofar as our cognitive apparatus allows. This representational or knowing process appears to be a crucial aspect of our mode of coping with the environment. It is the tragedy of knowledge that this process, which we cannot do without, we cannot do well: it inevitably misrepresents the environment both by oversimplifying and by distorting it [...]. The only thing more outrageous than using our faulty intellectual processes, including scientific inquiry, to arrive at a representation of reality is not to use them.

William J. McGuire (1985: 584–585)

An understanding of the roots of political sophistication leads to an understanding of the phenomenon itself.

W. Russell Neuman (1986: 112)

## An Old Question: What Is Knowledge?

One of the earliest and most influential discussions of knowledge is Plato's dialogue 'Theaetetus'. In this dialogue the goal of Socrates and two young mathematicians is to produce a definition of knowledge. During the dialogue three definitions are proposed: (1) knowledge as perception, (2) knowledge as true belief or judgement, and (3) knowledge as true belief where there is a method (known as *logos* or a general type of explanation) for proving a belief is true. Each of these definitions is rejected and the dialogue ends in a deadlock, or *aporia*, because all three definitions are seen to have fundamental problems. There is a direct link between Plato's examination of 'what is knowledge?' and how political knowledge is currently conceptualised in the social sciences.

Since the 1980s, political knowledge has most often been measured in mass surveys as the ability to answer factual questions. A citizen has knowledge if they know facts such as the name of the current minister of transport or if Canada is a permanent member of the United Nation's Security Council. Earlier, during the 1960s and 1970s, political knowledge was conceptualised as a form of true belief or judgement. Here individuals were evaluated in terms of the structure of their beliefs. Beliefs were considered to be 'true' if they were consistent with each other and made sense in terms of a system of party competition defined by experts

in terms of 'left versus right' in Europe or 'liberal versus conservative' in the United States. In the 1940s and 1950s citizens were studied in academic surveys in terms of their 'level of conceptualisation' of politics where knowledgeable people were those who could think about politics in an ideological manner.

In short, the conceptualisation of political knowledge within the discipline of political science has gone through an inverted version of the Theaetetus dialogue, wherein the first definition of knowledge, as the ability to recall political facts, has become the dominant conception. More will be said on this point in the chapters below, but first it is important to provide an overview of why political knowledge is considered to be a core element in understanding political attitudes and behaviour.

### *An overview of contemporary thinking on political knowledge*

A central feature of all democratic states is that citizens have knowledge about political decision-making. In reality, there are considerable differences across individuals in their degree of political knowledge. This book will examine the importance of political knowledge among citizens in the Czech Republic from 1967 to 2014 using mass survey data, and more specifically it will examine: (1) the determinants of level of political knowledge, (2) the dimensionality of political knowledge, and (3) the consequences of different levels of knowledge for Czech voter turnout, party choices and policy preferences. The empirical evidence in this book is important because it provides a systematic basis for evaluating two core principles of democratic governance in the Czech Republic: effective citizenship and the pre-conditions for a responsive system of political representation.

A key idea underlying all approaches to political representation is that citizens are interested in and possess knowledge about government. Many critics of liberal multiparty democracy have asserted that political representation is impossible if governments are composed of 'the poor, ignorant, and the incompetent' (Macpherson 1977: 10). Despite the fact that in most political systems citizens are largely disinterested and ill informed, liberal democratic polities such as the United States (US) have proved to be both stable and durable. In some of the earliest sociological studies of the process of voting during the 1940s in the US the disjunction between democratic theory and political reality was starkly noted (Lazarsfeld, Berelson and Gaudet 1944; Berelson, Lazarsfeld and McPhee 1954).

The conventional view of information and representation is that elections provide the incentive for representatives to make contact with citizens, and accountability occurs through a 'reciprocal flow of information' wherein voters express preferences and governments justify their actions (Alvarez 1997: 203). In the past, political parties functioned as the link between voters and policy makers by structuring the flow of

information through candidate selection, policy platforms and voting cues. This is no longer the case for two reasons.

Firstly, within European countries such as the Czech Republic decision-makers are largely independent of direct party control in a similar manner to the way presidential candidates in the US operate with independent resources and support from sectional interests. Secondly, the primary source of information on public affairs is not political parties but the mass media. Similarly, within the US voters have turned increasingly away from parties in seeking information about candidates for office. This lack, or loss, of party monopoly over information flows to citizens in Europe and the United States places large costs on both policy makers and citizens. In short, the effectiveness of democratic politics (and political representation more specifically) is strongly determined by how well informed citizens are about what politicians are doing in their name.

*Political knowledge': terminology use in this book*

It should be noted that within this book the term 'political knowledge' is used to refer to a broad class of concepts used within political science such as political 'sophistication', 'awareness' or 'expertise', 'civic knowledge', 'informed or reasoned choice', 'attitude constraint', 'level of conceptualisation', or 'ideological reasoning'. This strategy is adopted in order to avoid using a proliferation of related terms. However, readers should be aware that in the research literatures on political knowledge these terms often have specific meanings, which relate to how the concepts have been operationalised using survey data (note, Neuman 1986: 191–193; Luskin 1987).

It is also important to highlight that this book will consider four conceptualisations of political knowledge: objective, subjective, implicit and interpersonal. These conceptualisations are not viewed as rival forms of political knowledge, but as different facets that are not necessarily strongly correlated with one another. A key reason for this 'facet perspective' is that evaluating citizens solely in terms of ability to recall facts in a survey interview is a limited and potentially misleading way of evaluating citizen competence.

- *Objective political knowledge* refers to the ability to correctly recall facts during a survey interview and is currently the most influential conception of political knowledge in political science. This form of knowledge is 'objective' because it is experts who decide what is correct.
- *Subjective political knowledge* is the information shared by people and refers to a form of collective wisdom. This form of knowledge is 'subjective' as it is defined in terms of what a majority or plurality of citizens (and not experts) think is factually correct.

- *Implicit political knowledge* refers to a set of skills that are preconscious in nature which allow a person to make choices quickly on the basis of limited factual information and situations of uncertainty – for example, judging an unknown election candidate’s competence on the basis of their facial appearance, a topic examined in Chapter 6 and in the Conclusion. (Section C.2)
- *Interpersonal knowledge* is the reputation that a person has for being informed. It is measured in survey interviews on the basis of an interviewer’s evaluation of the respondent immediately after an interview has been completed.

Subjective knowledge can be the same as objective knowledge when citizens and experts agree. The statistical theory behind the ‘wisdom of crowds’ effect and the mathematical underpinnings of Condorcet’s Jury Theorem show that in certain situations collective knowledge accurately reflects observed facts that few people, including experts, know. Implicit knowledge is distinct from objective or factual knowledge in that it is not based on conscious thinking or cognitive understanding. This form of knowledge is important because many daily choices are made automatically in an unconscious manner (see Lodge and Taber 2013). Subjective and interpersonal political knowledge are both social but differ. This is because the latter refers to a reputation for being informed and may be the basis for exerting personal influence as an ‘opinion leader’ among family and friends (Katz and Lazarsfeld 1955). Therefore, there is likely to be a strong but imperfect association between objective and interpersonal political knowledge.

Finally, it should be highlighted that two influential American (pragmatic) philosophers, John Dewey and Arthur F. Bentley (the latter was a political scientist who was instrumental in helping develop a pluralist and behaviouralist methodology in the study of politics), contended in their epistemological book *Knowing and the Known* that ‘knowledge’ was a vague concept. Instead, they argued that it would be better to use ‘terminological signposts’ (Dewey and Bentley 1949: 58, 72–74). Dewey and Bentley’s fundamental point was that all knowledge is a social or collective good whose meaning or definition is never fixed. This is the perspective adopted in this book: a citizen’s knowledge of politics is not only about facts, there are many ways of knowing.

### **I.1 The Puzzle: Why Is Political Knowledge Important?**

The motivation to study political knowledge is grounded in the normative view that citizens should be informed about public affairs. A key idea underlying most theories of democracy is that citizens are interested in and possess factual knowledge about government. The reality is different. Achen and Bartels (2016: 1) conclude on the basis of decades

### Box I.1: Political knowledge, past, present and future

The measurement of political knowledge forms one of the central features of public opinion polling. Although there are, and have been, many rival definitions of political knowledge, one of the most influential has been the measurement of citizens' ability to answer factual questions correctly. This fact-based approach was first used in the United States in the late 1930s when national pollsters and government agencies wanted to estimate citizens' familiarity with levels of unemployment and public debt.

This fact-based tradition in knowledge measurement persists to this day. Currently, political knowledge is most often measured in mass surveys in three main ways. First, there is the objective approach where respondents are asked a set of factual items in a quiz format. Second, there is a subjective measure where interviewees report how knowledgeable they feel about politics. Third, a respondent's level of knowledge is evaluated by the interviewer: this 'interpersonal' approach has been frequently used in successive American National Election Surveys (1951–) and Czech National Election Surveys (1996–). Sometimes two methods are used. For example, Eurobarometer surveys have frequently asked respondents both objective and subjective items. When these political knowledge questions are missing researchers sometimes use proxy measures such as level of education, or how many items a respondent fails to answer in the questionnaire.

Political knowledge as a theoretical concept is often associated with a variety of other terms such as 'sophistication', 'awareness' and 'expertise'. This terminological profusion is surprising because knowledge is a foundational element of theories of (a) democracy and (b) public opinion formation and (c) attitude and value change. The complex foundations of theories of political knowledge are reflected in controversies over measurement. Until the 1980s there was little systematic research on how best to measure political knowledge. Often scholars asked a standard battery of factual items repeatedly; however, many of these standard scales exhibited low levels of validity and reliability (Price 1999; Mondak 2001).

Some general results from political knowledge research over the last half century show (1) most citizens have little knowledge, (2) a small minority of less than 5% have high knowledge yielding a great level of variation in political awareness within electorates, and (3) there are large and persistent differences in knowledge across subgroups (Delli Carpini and Keeter 1996; Converse 2000; Althaus 1996, 2003). Citizens who have more schooling, are male, middle class, a member of an ethnic majority, older, and who are interested in public affairs know most about politics regardless of how knowledge is measured. The gender gap has been the subject of much research ranging from (1) explorations of domain-specific knowledge, and (2) women's greater propensity to reply 'don't know'. A number of substantive and methodological topics, listed below, reflect some of the main trends in current and future research.

- How much knowledge do citizens need to know for effective democratic governance?
- Why has political knowledge not increased with higher levels of education?
- What questions should be used to measure political knowledge?
- How many questions and topic areas are required to measure political knowledge accurately?
- Should guessing the answers in political quizzes be explicitly encouraged, or not?
- Is political knowledge a unidimensional concept reflecting a general ability rather than expertise in specific domains?

of empirical political research that a more realistic theory of democracy is now required. They argue for this point as follows:

[The] evidence demonstrates that the great majority of citizens pay little attention to politics. At election time, they are swayed by how they feel about 'the nature of the times,' especially the current state of the economy, and by political loyalties typically acquired in childhood. Those loyalties, not the facts of political life and government policy, are the primary drivers of political behaviour. Election outcomes turn out to be largely random events from the viewpoint of contemporary democratic theory. That is, elections are determined by powerful forces, but those forces are not the ones that current theories of democracy believe should determine how elections come out. Hence the old frameworks will no longer do. (ibid.)

This realist view of democratic politics is not new. In some of the earliest sociological studies of the process and context of voting the disjunction between democratic theory and political reality was starkly noted (e.g. the Columbia studies: Lazarsfeld, Berelson and Gaudet 1944; Berelson, Lazarsfeld and McPhee 1954: 308). The history of survey-based political knowledge measurement stretches back eight decades. Box I.1 provides a brief overview of the field of political knowledge research and some key puzzles and indications for future research.

### *I.1.1 Why is the level of objective political knowledge of citizens important?*

Most empirical research suggests that citizens' knowledge of politics and public policy is likely to be an accidental consequence of going about the daily business of living and working (Downs 1957: 246; Delli Carpini and Keeter 1996: 51–55). Moreover, advances in education since the 1950s seem to have done little to improve the general level of political knowledge, implying that lack of political interest trumps increased education effects in promoting greater levels of political knowledge (Converse 1975; Neuman 1986; Luskin 1987: 889; Bennett 1996: 227). From a comparative political perspective, American citizens by the mid-1990s seemed to know less than their fellow citizens in the UK, Canada, France, Germany, Italy and Spain (Dimock and Popkin 1996).

More recently, using data from the Comparative Study of Electoral Systems (CSES) conducted across twenty-two countries between 1996 and 2002, a wide-ranging study found that education is a strong predictor of political knowledge. However, the effect of education on level of knowledge is mediated by the extent to which there is economic redistribution within a state and whether there is a majoritarian or proportional electoral system. The relationship between education and political knowledge is strongest in economies where there are relatively high levels of inequality and in states with a majoritarian electoral system. More generally, this comparative study argues that level of political knowl-

**Figure I.1: Summary of reasons as to why political knowledge is important**

<i>Domain</i>	<i>Factor</i>	<i>Reason</i>
Interest articulation	Enlightened self-interest	Citizens understand what policies are most beneficial to themselves and groups to which they belong, and therefore make informed choices (Zaller 1992)
	Collective interest	Voters with higher levels of information vote more on the basis of national economic conditions rather than personal circumstance (Delli Carpini and Keeter 1996: 259–260)
	Democratic values	Informed citizens are more supportive of democratic principles and institutions (Nie et al. 1996: 71–72)
	Representation	People who are knowledgeable give opinions more frequently than those who understand little about politics (Althaus 1996)
Democratic values and principles	Equality	Less informed citizens are often reticent to express opinions about public affairs. This can result in an ‘information bias’, where the voice of knowledgeable citizens who have specific preferences are over represented (Althaus 2003)
	Tolerance	Degree of knowledge influences perceptions and this has a direct impact on fears, e.g. more knowledgeable citizens feel less threatened by immigration (Popkin and Dimock 2000)
	Trust	Higher levels of political knowledge are associated with increased levels of political trust, and lower levels of alienation (Popkin and Dimock 1999: 127–134)
System stability	Participation	Well informed citizens participate at higher rates in elections and public affairs more generally (Delli Carpini and Keeter 1996: 221–224)
	Political stability	Level of knowledge is positively associated with stability in political attitudes among citizens, thereby providing the foundations for evolutionary rather than revolutionary change (Delli Carpini and Keeter 1996: 232–238)
	Adaptation to change	Understanding political actors’ motivations, the rules of the political game and the constraints on public policy making is a prerequisite for deciding what policy changes are sensible (Popkin and Dimock 1999: 125–127)

Source: author

Note that the reasons presented in this table represent only some of results of research on the importance of political knowledge for democratic political systems. See Galston (2001) for an overview of this and related research.

edge is a strong determinant of political participation and informed vote choices (Grönlund and Milner 2006).

One could argue does it really matter if a person can name the minister of foreign affairs, knows how the president is elected, or can tell which level of government is responsible for household waste disposal. Nonetheless, research within political science demonstrates that level of citizen knowledge about politics is important for many different reasons. However, we may reduce these explanations to three key domains, as shown in Figure I.1. The three domains examined, i.e. interest articulation, democratic values and system stability, and the ten (non-exhaustive) factors identified underscore one central point. An effective political system requires order and stability, and this in turn depends on citizens having appropriate skills, knowledge and personality traits (Galston 1991). Moreover, the domains and factors identified in Figure I.1 are interrelated and also tend to reinforce one another, leading to 'virtuous' or 'vicious' cycles of reciprocal causation where democratic states become either consolidated and mature or descend into internecine conflict and authoritarianism.

This leads us to another key consideration that is of central concern in post-communist states such as the Czech Republic. An often forgotten criterion underpinning all polity types is that the requirements of citizenship, such as being knowledgeable, are specific to a regime type. For example, the desirable traits for a citizen in the Czechoslovak Socialist Republic (ČSSR) in the period of 'normalisation' in the early 1970s were undoubtedly different from what is desired in the contemporary Czech Republic. This is because these two states are based on inherently different political principles and institutions.

Moreover, the relative desirability of the three domains and ten factors outlined in Figure I.1 depends on the conception of democracy embraced (March and Olsen 2000: 148). Given the historical experience of (older) Czech citizens with 'democratic socialism' between 1948 and 1989 and liberal democracy since 1990, one can readily appreciate how the relative importance of key principles such as rights vs obligations, public vs private interest, liberty vs equality, civic unity vs dissent, and pluralism vs overarching ideology have a fundamental impact on how factually knowledgeable a citizen needs to be. A good example of this kind of debate, in the Czech context, was the contrasting public declarations and political writings concerning citizenship espoused by President Václav Havel and Prime Minister Václav Klaus during the 1990s (Havel 1990; Klaus 1992, 2002; Myant 2005).

While political theory is important in facilitating understanding of citizen knowledge, there is also the practical concern of how to measure political knowledge. Is it valid to go out with a mass survey questionnaire and ask a nationally representative sample of the population a series of factual questions about politics, or is knowledge captured by other factors such as level of education?

### *1.1.2 Objective political knowledge and mass survey research*

One of the most popular methods of evaluating the importance of political knowledge is through the use of national representative samples. Here citizens are quizzed about their knowledge of political matters. These answers to knowledge questions are often examined in terms of key political attitudes (e.g. support for democracy, tolerance of minorities) and behaviour (vote choice in elections, participation in organisations, parties, etc.). The following non-exhaustive list derived from the 'Cognitive Engagement' model of citizen participation in politics highlights a few of the main differences between citizens who are 'sophisticated' and those who are 'know-nothings' (Galston 2001: 223–226; Bennett 1996; Pattie, Seyd and Whiteley 2004: 33, 138–140, 152–156).

- Informed citizens participate at higher rates in elections and other forms of political activity (Verba and Nie 1972; Delli Carpini and Keeter 1996)
- Citizens with higher levels of political knowledge tend to vote more on the basis of issues than candidate attributes (Knight 1985; Zaller 1992; Delli Carpini and Keeter 1996: 238–264; Galston 2001)
- Better informed citizens are more effective at pursuing their political interests (Converse 1964a, 2000; Zaller 1992; Althaus 1996, 2003)
- Less informed citizens appear to be more susceptible to media effects such as agenda setting and priming (for debate, see Iyengar, Peters and Kinder 1982; Iyengar and Kinder 1987; Holbrook 1996; Cobb and Kuklinski 1997; Shaw 1999; Miller and Krosnick 2000)
- The politically sophisticated are more open to reasoned argument and less influenced by symbolic politics (Petty and Cacioppo 1984, 1986)

All of these findings stem from empirical research undertaken primarily in the United States since the 1950s. In fact, public opinion research from the 1950s to the 1970s indicated one pervasive and shocking pattern: minimalism. Citizens were found to be primarily characterised by low levels of public attention and information – for example, one in eight respondents in the United States appeared to be knowledgeable enough to exhibit familiarity with ideological reasoning (Converse 1964a).

In fact, most respondents interviewed repeatedly in a series of panel surveys (1956–1958–1960) appeared to have no (stable) political attitudes (Converse 1970). Later research in the United States, Britain, and France illustrated that non-attitudes were widespread across all demographic groups (Converse and Markus 1979; Butler and Stokes 1974; Converse and Pierce 1986). Using a different methodology, later research in two socio-politically distinct regions of Belgium (French-speaking Wallonia and Dutch-speaking Flanders) found that between one in three and two in five respondents in the Belgian National Election Study of 1991 had low levels of knowledge (Johns 2003: 64).

Research over the last century on the level of objective political knowledge among voters over has often been summarised in terms of two famous ‘simple truths’ (a) the mean distribution of political knowledge in modern electorates is low and (b) the level of variation in knowledge among citizens is high. Moreover, these two simple truths are valid despite the fact that there is no definitive methodology for measuring political knowledge. This is because most scholarly work on the requirements of having an informed citizenry as the basis for democracy is based on what Philip E. Converse (1990: 372) termed ‘naïve expectations’. However, the situation represented by survey research work is likely to overestimate the level of political knowledge among citizens. This is because in many countries sizeable portions of individuals approached for interviews in political surveys refuse to participate.

In the United States the ‘non-response rate’ in the American National Election Study (ANES) ranges between 25 and 33 percent. In European countries such as Belgium surveys often have non-response rates of over 30 percent. In the recent (2003–) International Social Survey Programme (ISSP) surveys in the Czech Republic, only about one in two sampled respondents agreed to be interviewed (Delli Carpini and Keeter 1996: 66; Johns 2003: 64; Krejčí 2007). Non-response rates in political surveys are important because non-respondents are known to be less interested in politics and tend to have low levels of knowledge of public affairs (Brehm 1993; Koch and Past 1998; Althaus 2003).

Non-trivial levels of survey non-response are a well-known source of variation and bias in mass surveys (Groves 2004; Särndal and Lundström 2005). Here the focus will be on two important implications that relate directly to measurement of political knowledge. Firstly, mass survey estimates of citizens’ objective political knowledge are likely to overestimate the level of knowledge by a non-negligible amount. This rate varies inversely with the level of non-response rate (type II error, see below). Secondly, the impact of political knowledge is likely to be underestimated because the absence of ill-informed non-respondents truncates the range of variance of knowledge in samples (type I error).

In practice, researchers rarely consider the impact of these two important aspects of the mass surveying process on factual political-knowledge measure. This is because it is not clear how these effects can be reduced in a cost-effective manner. However, the presence of these methodological effects implies that estimates of political knowledge and the effects of such knowledge on political attitudes and behaviour are likely to be conservative ones. In statistical terms, there is a greater risk of incorrectly rejecting a true association between level of political knowledge and another variable of interest (type I error or false positive), than accepting the incorrect result that there is a difference between level of political knowledge and another variable (type II error or a false neg-

ative).<sup>1</sup> Apart from these methodological concerns, level of political knowledge has some important implications for our understanding of the theory of political representation in modern democracies.

### *1.1.3 Objective political knowledge and political representation*

Up to this point this chapter has argued that differences in level of political knowledge are associated with various attributes of individual citizens. Now it is important to consider the institutional aspects of political representation. Here, for the sake of brevity, we will concentrate on one of the most influential theories of representative democracy, the 'Responsible Party Model' (RPM) (Converse and Pierce 1986; Granberg and Holmberg 1996; Esaiasson and Holmberg 1996; Schmitt and Thomassen 1999).<sup>2</sup>

The central tenet of this model is that representative democracy is most effective when voters are able to assess both their own preferences and the policy platforms put forward by competing parties during election campaigns. The ability to correctly select a party on the basis of preferences is seen to depend on citizens having sufficient political knowledge to: (1) understand their own preferences, (2) discriminate between parties on the basis of personal preferences and (3) vote by comparing parties and selecting the one that in policy terms is closest to them (Galston 1991, 2001; Klingemann, Hofferbert and Budge 1994; Manin 1997).

However, as noted above, there is considerable empirical evidence highlighting that most citizens have rather scant knowledge of politics (Neuman 1986; Delli Carpini and Keeter 1996; Milner 2002; Grönlund and Milner 2006). Such pessimism has led to a research agenda that has swung between two extremes. On the one hand, most democracies are populated by 'know-nothings'. On the other hand, such pessimism is seen to be unfounded because factual knowledge is not everything. Here citizens are seen to be (1) simultaneously both 'clever and clueless' or (2) unfairly evaluated because they are being asked bad questions in surveys and that leads to measurement error (Caplan 2007a; Sniderman, Brody and Tetlock 1991: 1–13; Achen 1975; Erikson 1979).

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1 Within statistical (null) hypothesis testing type I error is generally considered more serious than type II error. This is because researchers prefer to be conservative in reporting findings and favour a small chance of incorrectly stating that something is true. More generally, type I and II errors are opposites, where a lower risk of one form of error increases the risk of the other. The probability of type I errors can be estimated with some accuracy, whereas the probability of type II errors is often unknown.

2 This model of political representation assumes that voters can vote out political parties who refused to implement desired policies when in power. Thus, the key political power of citizens is to remove parties from government. This 'negative' view of political representation is consonant with the liberal democratic theory of Isaiah Berlin (1969).

In light of such empirically and methodologically driven debates, it is surprising to find that very few theories of electoral behaviour explicitly take into account the heterogeneity of public knowledge about politics (though cf. Zaller 1992; Converse 2000; Bartle 1997, 2000).<sup>3</sup> In fact, many variants of the Downsian and associated rational choice models of voting assume that citizens will know their own policy preferences and those of parties seeking elections (Hinich and Munger 1997; Merrill III and Grofman 1999; but cf. Adams, Merrill III and Grofman 2005). Alternatively, it has been argued over the last decade that citizens with little knowledge can make good electoral choices by acting on what trusted, informed sources tell them (Lupia and McCubbins 1998).

Regardless of the merits of these specific explanations of voting, a central normative question is: do citizens have sufficient knowledge to vote in a manner consonant with effective democratic representation? The RPM view of representation has a restricted focus in that it deals exclusively with issue voting. Therefore, other criteria that voters could use in party choice, such as leadership considerations, incumbency and retrospective personal economic evaluations, are ignored in the RPM.<sup>4</sup>

For this reason, objective political knowledge has been often exclusively associated with issue voting within political science. This focus stems from: (a) political theory, i.e. approaches such as the responsible government model, (b) the influence of spatial models of party competition, and (c) the relative ease of operationalising and testing issue-based measures of political knowledge in post-election surveys. In this respect, a key virtue of an issue-based approach to political knowledge is that it provides a theoretical 'gold standard' for the idealised informed citizen.<sup>5</sup> Consequently, it has been common for researchers to use the standards explicit in political theories such as the RPM to assess if individual vote choices are in a theoretical sense 'correct' rather than judging voters as not voting rationally (Bartels 1996; Althaus 1996, 2003; Delli Carpini and Keeter 1996; Bartle 1997, 2002; Johns 2003; Heath, Andersen and Sinnott 2003; Lau and Redlawsk 2006: 72–92).

Using the RPM's 'correct issue-voting' criterion, where voters select the party that best represents their issue preferences, an analysis of level

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3 Almost all empirical analyses of vote choice highlight that issue voting is rarely the most important explanation of party choice. Most often social-psychological explanations based on factors such as party identification are shown to be some of the most powerful motivations. Therefore, evaluations of political knowledge on the basis of issues are likely to produce a pessimistic portrait of citizens' political competences because issue voting rarely determines election outcomes.

4 One could justify the emphasis given to issues in the RPM on the normative grounds that it is public policy implementation that gives legitimacy to a party's actions in government.

5 The congruence between (a) the issue positions of elites and voters and (b) the policy positions of the public and public policy output has been one of the most influential methods of evaluating the nature of legislative and dynamic representation (Miller and Stokes 1963; Erikson, MacKuen and Stimson 2002; Stimson 2004).

of political knowledge and vote choice in Belgium estimated that only between 33 and 40 percent of the electorate voted 'correctly' in 1991 (Johns 2003: 64). Heath et al. (2003: 78–82) found that in the British general election of 1997 there was a relationship between level of factual knowledge and voting for a party that was closest to the respondent on policy issues, but this was restricted to such topics as privatisation of national enterprises and the European Union. In short, the assumption of uniform knowledge differences across a range of issue domains is too simplistic.

This complexity was evident in research undertaken for the British general election of 2001, which found that voters do not treat all issues equally. In fact, the more an individual knew about a specific issue the more weight they attributed to this issue when casting a vote (Bartle 2002). The key implication here is that level of political knowledge works differentially across both respondents and issue domains, where not all voters or issues are the same. This implies that there is likely in reality to be more than one mechanism underpinning the type of issue voting described in the RPM.

Having outlined the importance of objective political knowledge in terms of its measurement within mass surveys and its role in political representation, it is now time to shift our attention to how political knowledge has been conceptualised in mass survey research over the last sixty years. Much of the empirical research on a citizen's level of political knowledge has adopted a mapping strategy where the objective has been to study the nature of political knowledge.

## **1.2 The Nature of Political Knowledge**

Citizen knowledge is widely acknowledged within democratic theory to be a central determinant of effective political representation. Nonetheless, there is no agreement among scholars on how best to conceptualise and measure political knowledge among citizens. One very influential approach has been to use ideas from social psychology to design and interpret the results of mass surveys. Here the concepts of 'ideology' and 'attitudinal constraint' have been influential. In order to understand these two key terms it is necessary to briefly describe the related concept of 'cognition'.

A person's level of political knowledge is most often thought of in cognitive terms. Cognition refers to the fundamental units of what individuals have in their long-term memory. Cognitions can be linked together to form complex mental structures, which are known in social psychology as 'beliefs' and 'attitudes' (or 'associations' in cognitive psychology). Moreover, complex cognitive structures may be joined into ever more sophisticated mental structures that are known as 'schemata'.

The term 'constraint' is an association between two or more cognitions (e.g. facts held in long-term memory) and this linkage results in a

specific belief or attitude. Political belief systems are composed of cognitions and constraints, and where political belief systems are composed of a particular constellation of cognitions and constraints these are called an 'ideology'. Cognitions, beliefs, attitudes and ideologies are all stable mental structures that are held in the long-term memories of individuals and can be retrieved at any time – for example, choosing who to vote for or answering questions in a survey interview.

Level of political knowledge is thus built on the idea that citizens' ability to effectively represent their interests in politics varies from individual to individual because of cognitive differences. In simple terms, cognitive differences refer here to the extent to which citizens think about public affairs and possess information about politics. Because of cognitive differences the complexity (range and organisation) of political belief systems varies. It is important at this point to summarise some of the main defining features of political knowledge among citizens. There are three facets to political knowledge: (a) quantity of information held in memory, (b) range of such information, and (c) the interconnect- edness of this information or degree of constraint (Luskin 1987).

Whether political belief systems can be reduced to a single dimension such as left-right or liberal-conservative is an open question. This issue is important because finding evidence of an ideology such as left-right (a single dimension) suggests that facts about politics are organised into one coherent framework. In contrast, if facts and ideas about politics are best explained in left-right, liberal-conservative, and pro-/anti-EU terms (three dimensions), this is evidence that political thinking is not highly organised. Previous research shows that higher levels of political knowledge are often associated with more coherent (single-dimension) belief systems (Knight 1985).

Level of political knowledge is an informational criterion ranging from knowing almost everything to knowing nothing at all. It does not refer to what citizens actually think about. In this sense a person who is an ardent extreme right-wing xenophobe can be equally knowledgeable as a Maoist revolutionary. Level of political knowledge is independent of the merits of specific ideological orientations. In a similar manner, issue orientation and level of political knowledge is not the same thing. Citizens with higher levels of political knowledge are more likely to have opinions on many issues: especially those that involve difficult trade-offs – for example, security vs civil liberties (Carmines and Stimson 1980). However, citizens who are not strongly knowledgeable about public affairs can, and often do, exhibit strong issue-based preferences based on feelings and emotions.

This latter point underscores the importance of not equating level of political knowledge with rational thinking (Stanovich 1993, 1994, 2009). This is because being knowledgeable is not defined in terms of rational thinking or action. The association between higher levels of political knowledge and use of a means-ends strategy is often strong, but may not

constitute a causal relationship. This is because individuals with relatively poor levels of knowledge may act in a manner that is instrumentally rational on the basis of informational short-cuts or heuristics (Sniderman, Brody and Tetlock 1991; Lupia and McCubbins 1998). These issues will be the focus of the models of the determinants and the impact of political knowledge.

### **I.3 Measuring Political Knowledge**

The foregoing discussion reveals that the academic understanding of a citizen's political sophistication has exhibited differing conceptualisations and measurement models. An examination of the political sophistication literature between 1960 and 2010 reveals that there is currently no definitive agreement about what objective political knowledge is, although there is consensus that it is best measured in mass surveys using a set of political quiz questions. Most research using political quizzes has aggregated correct answers to create an overall (summed rating scale) score for each respondent. This survey measurement methodology is based on two assumptions.

First, all questions provide equally good measures of a person's level of objective political knowledge. However, this assumption is inconsistent with the common practice of including in political quizzes questions of varying degrees of difficulty (i.e. Guttman rather than summed rating scales). As a result, a person who is able to answer the most difficult quiz item should (in theory) have answered all the others correctly. Second, the survey questions used as indicators of a person's political knowledge are unidimensional because knowledge like general intelligence (i.e. as measured in IQ scores) is seen to be a single entity. These two assumptions have been questioned in previous research on the basis of (1) the validity of the theory of how respondents answer political quiz questions in a survey interview and (2) the reliability of the statistical modelling of the resulting political knowledge data.

With regard to statistical modelling beyond summed rating scales, two main approaches are used: Guttman scales and Item Response Theory (IRT). Both approaches make use of different statistical methods to analyse correct/incorrect answers, and they assume that political knowledge is a single thing (i.e. unidimensional) and that the political quiz questions are hierarchical in the sense of having varying levels of difficulty. Here knowledge is characterised by structure rather than being a disordered collection of facts. The assumption here is that all respondents are equally likely to correctly answer each of the indicators on a political knowledge scale. If there is a linear relationship between a person's level of political knowledge and the probability of giving a correct answer, then the survey data may be legitimately modelled using correlational techniques such as Principal Components or Factor Analysis.

An alternative approach to statistically analysing factual political knowledge questions uses a technique called ‘unfolding’. Without getting into technical details, an unfolding model relaxes the Guttman assumption that all respondents are equally likely to correctly answer each of the indicators on a political knowledge scale (Coombs 1964). With unfolding both the respondent and the questions are modelled together and so the assumption that specific questions are most difficult for all those interviewed is something that is tested rather than assumed. More recently, answers to political questions in surveys have been examined with more sophisticated statistical techniques using a Bayesian modelling framework (Levendusky and Jackman 2003; Lawrence 2007). In sum, there are many different ways to analyse political knowledge data where much depends on how knowledge is conceptualised.

### *1.3.1 The structure of objective political knowledge*

A central question in measuring political knowledge is to determine whether it is a single thing like intelligence, i.e. unidimensional. Political knowledge is typically theorised (most often implicitly) to be a single underlying personal trait and the generic citizen is said to be a ‘generalist’, knowing many things, rather than a ‘specialist’, where knowledge is focussed on particular topics that are of special interest to the person. This generalist perspective has important consequences, as citizens who do not know the answers to different types of factual questions may appear to be uninformed, even though they may be experts on one or two topics.

For example, Stolle and Gidengil (2010) demonstrate that using a wide range of factual questions on practical social policy facts reduces the gender gap in political knowledge observed in previous research. In other words, men and women know different political facts. Unfortunately, these authors assume their ‘practical’ knowledge items to be an extension of their knowledge scale and do not test for dimensionality. The evidence on the dimensionality of political knowledge is mixed and some scholars contend it is unidimensional and others multidimensional (Delli Carpini and Keeter 1993, 1996).

While there is a general recognition that the distribution of knowledge questions dealing with sub-national politics yields different results to questions on national politics, there is often no test of whether this provides evidence of the multidimensional nature of political knowledge. An exploration of the dimensionality question with data from the Czech wave of Eurobarometer 62.1 (Oct. 2004) found two dimensions that appeared to stem from how the respondents answered the questions, i.e. acquiescence response set bias, rather than patterns in level of knowledge (Lyons 2007b: 113–114). Subsequent work using measures of local, regional and national politics included in the Czech National Election Study (June 2006), revealed that a unidimensional model

of political knowledge was reasonable (Linek and Lyons 2008: 31–38). Chapters 1 and 2 of this book will examine in greater detail the conceptualisation and measurement of political knowledge using surveys among Czechs since 1967.

#### **I.4 The Motivation-Ability-Opportunity (MAO) Model**

Within this book extensive use will be made of the Motivation-Ability-Opportunity model to explore, often in a comparative manner, the origins of political knowledge. For this reason, it is important here to explain the motivation for using this explanatory framework in the following chapters.

The MAO model of the determinants of factual or objective political knowledge represents a ‘standard’ approach to exploring explicitly what factors shape why some citizens can correctly recall in a survey interview more facts about politics than others. From this perspective, individuals are (1) interested in politics and hence *motivated* to pay attention to news, (2) have the cognitive *ability* to understand political information because of their schooling, and (3) have *opportunities* to access political news through the media (Bennett 1995; Delli Carpini and Keeter 1996; Althaus 2003; Fraile 2013).

Zaller’s (1992) Receive Accept Sample (RAS) model of mass opinion highlights the importance of individual differences in attention paid to politics, but does not explore in a systematic manner the sources of these differences (see also Zaller and Feldman 1992). Similar to Zaller’s (1992) conception of survey response, the MAO model assumes that there are important differences across individuals in the degree to which they think about politics. Some have a high level of cognitive engagement and typically have more factual or objective political knowledge. In contrast, others have little interest in politics and perhaps evaluate candidates on the basis of their appearance in campaign photos when voting.

The theoretical origins of the MAO model lie in cognitive psychology and more specifically the dual processing model literature, where information such as political facts are dealt with in distinct ways depending on a person’s level of interest in politics. This is the perspective adopted by two of the main dual processing theories: the Elaboration Likelihood Model (ELM) and the Heuristic Systematic Model (HSM) (Petty and Cacioppo 1986; Chaiken 1987; Chaiken, Liberman and Eagly 1989).

With a certain minimum level of ability, often operationalised in terms of level of education, citizens’ thinking about politics depends critically on their degree of motivation. Citizens with high motivation engage with political news or facts by expending cognitive effort as the ELM argues or perhaps engage in ‘systematic’ thinking as the HSM asserts. This is most often seen to be the social-psychological basis for acquiring high levels of factual political knowledge. In contrast, individuals with

low interest in politics rely on cognitive shortcuts which are known as ‘peripheral cues’ in the ELM and ‘heuristics’ in the HSM. In such situations, votes may be cast on the basis of how competent a candidate’s face looks in a campaign or ballot photograph.

A key implication of the MAO model for democratic systems of governance is that effective representation depends on (1) ensuring the content of political messages is consonant with most citizens’ level of thinking about politics, and (2) political messages having the capacity to motivate individuals to think more deeply about public policy questions. In this book each of the three explanations, i.e. Motivation-Ability-Opportunity, has multiple indicators, except in the case of ability, where there is only a single measure – education. This is because additional indicators of ability such as intelligence are unavailable in the surveys used in this book.

*Motivation* refers to factors that promote interest and engagement in politics and is important because it moderates the link between exposure to political information and the formation of attitudes. Here interest in politics, partisanship, the belief that who is in government matters, having a sense of political efficacy, and a clear ideological orientation and willingness to vote in future elections have all been shown in previous research to be important indicators of a motivated citizen. In contrast, *ability* (measured by level of education) refers to a person’s capacity to understand political news and elite messages. Ability is often positively associated with an aptitude to make decisions quickly because it is based on factual political knowledge.

Finally, *opportunity* refers to factors or social contexts that promote higher levels of political thinking. For example, access and use of a broad range of media outlets should increase factual knowledge through greater engagement with politics, but have no impact on forms of knowledge that are non-cognitive, as discussed in Chapter 6. Position in society attributes, such as being a woman, being old, having low income or being unemployed, are known from previous research to be linked with low levels of political knowledge. The age effect on knowledge is complicated because age is expected to be positive until old age, incapacity and infirmity emerge, after which the relationship becomes negative, as old, sick people have little interest in or knowledge of current affairs.

### **1.5 The Impact of Political Knowledge on Voting and Policy Preferences**

The failure to ratify the Constitutional Treaty in France and the Netherlands in 2005 and the Lisbon Treaty in Ireland in 2008 using citizen referendums was largely attributed by political elites to voters’ lack of knowledge. As a result, these referendums evolved from being decisions on the future of the European Union (EU) into public judgements on

the performance of national governments. For this reason, pro-EU elites argued that if citizens knew more about the benefits of the integration process they would be positive toward initiatives such as the Constitutional Treaty. While one might disagree with the logic of this particular interpretation, a similar argument has often been made concerning the central role that objective political knowledge plays between effective citizenship and the quality of democracy (Berelson, Lazarsfeld and McPhee 1954: 308; Dahl 1989: 180).

In general, political theory contends that different regime types are based on varying conceptualisations of citizenship and levels of factual political knowledge. Within liberal democratic states there is a strong emphasis on citizen competence, where individuals are expected to be sufficiently well informed to understand their own best interests, evaluate the policy options on offer in elections, and select candidates and parties that would best represent their welfare preferences. A review of the scholarly literature demonstrates that political knowledge effects are wide-ranging and extensive in nature. Consequently, doubts about the sophistication of citizens may be interpreted as undermining the logic of democratic forms of governance.

Within the electoral studies literature political sophistication has been a central consideration within the sociological (the Columbia studies), social-psychological (Michigan Voter Model) and rational choice (Downsian and Rochester schools) explanations. For example, the 'paradox of voting' within the rational choice perspective suggests that citizens who understand that their single vote is very unlikely to affect the outcome of an election have very little incentive to vote (Downs 1957; Blais 2000). The fact that many citizens decide to participate in elections and these participants tend to have higher levels of political knowledge shows that voter sophistication has a significant affective component (Riker and Ordeshook 1968; Brennan and Hamlin 2000). This affective component appears to be reflected in a positive association between party attachment and level of political knowledge (Albright 2009).

Switching attention to the effects of factual political knowledge on party choice, Bartels (1996) found that lower levels of knowledge benefitted incumbents and specific parties. A similar analysis undertaken by Heath et al. (2003) in Britain found that knowledgeable voters were more likely to vote tactically and less likely to support a party that had policy positions inconsistent with their own preferences. Other research has set to one side the direct effects of knowledge on election outcomes and focussed instead on citizens' 'ability to emulate fully informed voting behaviour'. Toka (2008: 40) has found these information effects are only evident across multiple elections and relate mainly to concerns about corruption.

To date, the only study of factual knowledge effects on voter turnout, partisanship and party choice in the Czech Republic was made in a post-election survey conducted after the Lower Chamber Elections

of 2006. Analysis of these data demonstrated that the impact of political knowledge among Czechs is similar to that observed in established democracies (see Lebeda et al. 2007: 78–79; 156–157; 205–213). There is clearly a need to undertake more detailed studies in order to demonstrate the impact of political knowledge across time and different types of elections, i.e. regional, national and European, and using comparative research also across different national political contexts.

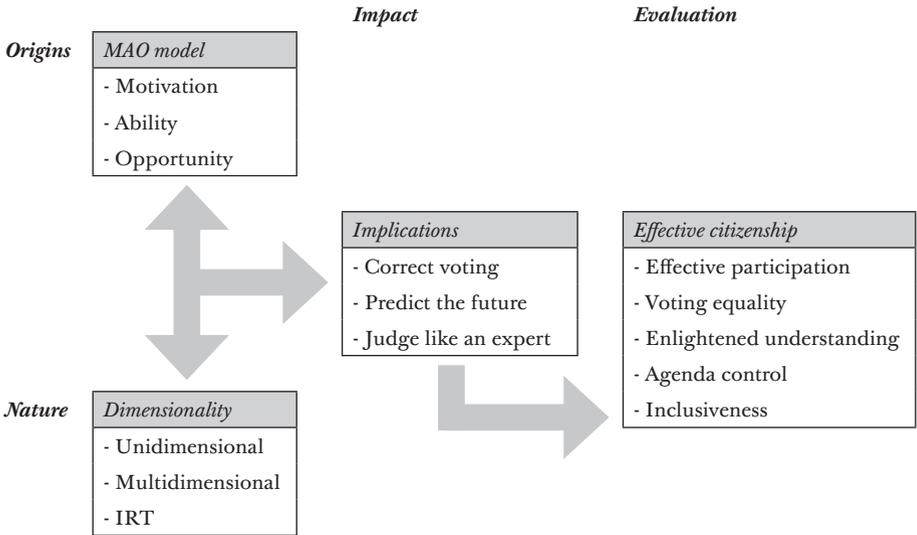
## **I.6 The Aims of This Book**

The key goals of this book are to examine the determinants, characteristics and consequences of varying levels of political knowledge among Czech citizens from 1967 to the present. Consequently, this book is composed of three sections: (1) the nature and origins of political knowledge, which includes data and measurement issues, (2) the determinants of political knowledge, and (3) the impact of political knowledge on attitudes and behaviour. The contents of these three sections, as displayed in Figure I.2 (and in more detail later in Figure I.4), may be unpacked into a number of complementary research themes and objectives that may be summarised as follows.

*Nature:* Is political knowledge a general attribute of citizens, or is it domain-specific, where different citizens know much about some specific areas of public affairs and relatively little about others? The dimensionality of political knowledge has fundamental implications for understanding the nature of political knowledge and its measurement. In previous research simple additive scales have usually been employed, where the correct answers to questions are simply added together to form an overall test score. More recently unidimensional Mokken scales and various forms of Item Response Theory (IRT) models have been used to explore political knowledge data where different theories of the survey response data generating mechanism have been tested in a systematic manner. Moreover, different political contexts are also likely to have an impact on the dimensionality of knowledge observed.

*Origins:* The question of why there are differences in level of political knowledge across citizens will be examined using a Motivation-Ability-Opportunity (MAO) model. These three mechanisms highlighted within this model derive from research undertaken in the American context by Hyman and Sheatsley (1947) and replicated later by Bennett (1996). This framework incorporates much of what is currently known about the distribution of political knowledge in established democracies (e.g. Zaller 1992; Converse 2000). The MAO model assumes that three different mechanisms determine level of political knowledge at the individual level. A citizen must have an opportunity to acquire information about public affairs, they must have the ability to use this information

**Figure I.2: Overview of framework for analysis of political knowledge**



Source: author

Note the two dimensions in this figure may be broadly thought of in terms of (1) causes, i.e. origins and nature, and (2) consequences, i.e. impact and evaluation. In this book, the evaluation of political knowledge to promote effective citizenship is not undertaken, as the focus is on the origins, nature and impact of political knowledge (broadly construed).

to form preferences, and they must be motivated to follow and participate in public affairs. Here political context is also likely to be critically important in terms of the impact of the electoral system (plurality vs proportional representation) and the system of governance (centralised/unitary vs decentralised/federal).

*Impact:* The consequences of differences in political knowledge will be explored in terms of (a) correct voting or the ability to match party choice with partisan and policy preferences, (b) the ability to predict the future, and (c) the difference between expert knowledge of politics vis-à-vis all less-knowledgeable others. If all citizens had uniformly high levels of knowledge, how would the electorate's preferences for public policy making, government composition, and perceptions of parties' electoral promises change from those observed? A central assumption within many strands of democratic theory is that greater knowledge leads to more enlightened political choices and hence better representation.

## I.7 Overview and Organisation of This Book

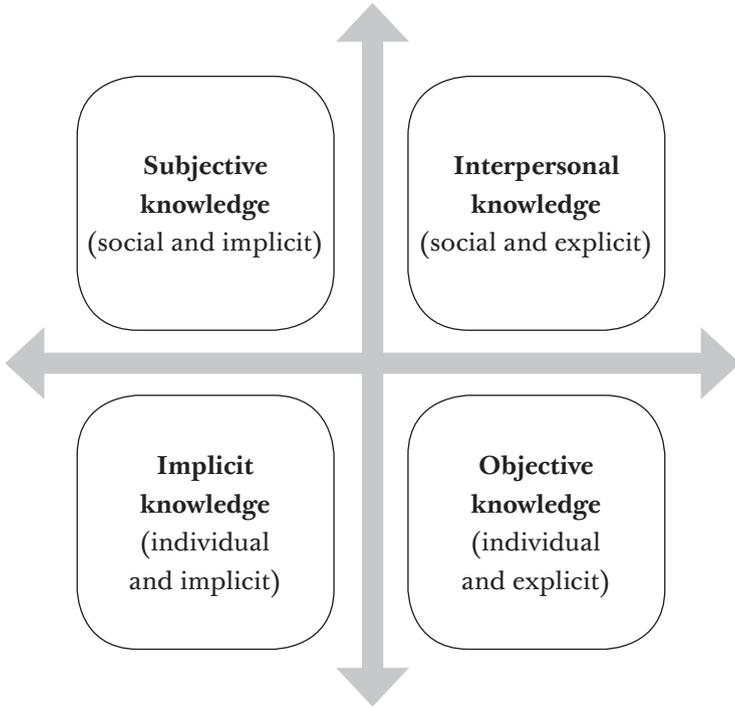
A central task of this book is to demonstrate within the general analytical framework outlined in Figure I.2 that examining the origins, nature and impact of political knowledge in the Czech Republic requires exploring differing aspects of knowledge. Citizens' overall knowledge of politics is unlikely to be captured by measuring a respondent's ability to correctly recall facts in a survey interview. This means that political knowledge, in a general sense, is likely to have different facets. In this book the facets of political knowledge examined are the ability to recall facts (objective knowledge), understanding what others think is true (subjective knowledge), being able to decide whether a candidate is competent using visual cues (implicit knowledge), and having a reputation for knowing about politics (interpersonal knowledge).

This book will show that measuring different facets of political knowledge using mass survey interviews is possible and represents a more valid and reliable picture of social reality. Here the focus will be on four different facets of political knowledge that represent two dimensions: (1) a vertical dimension composed of social (top) and individual (bottom) poles and (2) a horizontal dimension ranging from implicit (left) to objective (right) poles. This leads to a two-by-two cell typology, shown in Figure I.3. At the risk of repetition each of the four facets of political knowledge examined in this book may be summarised as follows.

- (1) *Subjective political knowledge* is the ability of individuals to give non-expert consensus answers to all types of political questions (examined in Chapter 5).
- (2) *Interpersonal political knowledge* is the ability to present oneself as knowledgeable about politics to other people and is the basis for exerting personal influence (Chapters 6, 7 and 10).
- (3) *Objective political knowledge* reflects the ability to answer correctly, according to experts, a set of simple factual questions from information held in memory (Chapters 3, 4, 5, 7, 9–13).
- (4) *Implicit political knowledge* is the ability to make correct choices using visual and other forms of evaluations that are non-cognitive in nature where the individual cannot explain the reasons for their choices (Chapters 6 and 10).

Later chapters in this book will show that these aspects, or dimensions, of a citizen's political knowledge have contrasting origins, natures and impact on whether Czech citizens have voted correctly in recent general elections. It is important to note that the MAO modelling framework is used to examine subjective, interpersonal, objective and implicit political knowledge; however, the model implementations are different in Chapters 5 to 10. Survey data from different time points have different sets of variables and it is impossible to estimate exactly the same model in all chapters.

**Figure I.3: Dimensions of political knowledge and their core characteristics**



Source: author

Note that the two dimensions refer along the vertical axis to (1) society versus individual, and the horizontal axis to (2) implicit versus explicit or objective. This simple typology refers to the facets of political knowledge that can be measured using mass survey questions and various forms of statistical analysis to construct latent, often unidimensional, scales that are then used to explore the origins, nature and impact of political knowledge.

A key implication of adopting a faceted, or multidimensional, operationalisation of political knowledge is that specific explanatory factors, such as (1) interest in politics, (2) level of education, (3) age and (4) sex or gender, all have both positive and negative relationships with the different types of political knowledge examined. This finding is important for two reasons. First, it highlights that evaluating citizens on the basis of a single facet of knowledge, which currently is the ability to score well in political quizzes, provides a limited view of citizen competences. This ability to recall facts is known as ‘declarative knowledge’ in cognitive

psychology and focusses on 'what' people know. Equally important are abilities related to knowing 'how' to do tasks and this is referred to as 'procedural knowledge'. Procedural knowledge is often implicit in nature where individuals are not able to explain how they are able to do something (see Chapter 6).

Second, attempts to improve democratic forms of governance through activities promoting greater civic or political literacy should not focus purely on individual-level information-based criteria such as factual knowledge about the executive, legislative and electoral systems. Political knowledge also has important implicit and social components that are not based on citizens' cognitive abilities or (meagre) store of factual knowledge. As all processes of social, political and economic change are characterised by uncertainty, the usefulness of factual knowledge, no matter how detailed or expert, is limited. Most expert political knowledge is not very effective in predicting the future, which suggests that (a) more than factual knowledge is important and (b) styles of thinking also play a key role in how political knowledge is acquired and used (Tetlock 2005). These issues are explored in Chapters 6 and 11, where it is argued that dogmatism (or closed-mindedness) reduces the impact of factual knowledge and adopting an open-thinking style has the opposite effect.

An overview of the organisation of this book is presented in Figure I.4, which shows the logic of the grouping of the chapters into four parts: theory, data and measurement, determinants and consequences. This book will show that Czech citizens' knowledge of politics is generally constant over time (Chapter 3) and there are persistent differences among citizens on the basis of their interest in politics, level of education, age and sex or gender (Chapters 5 to 12). A special attempt is made in Chapters 9 and 11 to examine the impact of personality traits or long-term psychological dispositions on variations in the levels of different facets of political knowledge. The fact that levels of objective or factual political knowledge are largely constant across time suggests that only a subset of the Czech public seeks out political information. One implication here is that persistent individual-level factors such as personality traits may be important.

The impact of political knowledge on attitudes and behaviour can be surprising. Chapter 11 reveals that objective or factual knowledge helps explain voter turnout, but it has little or no impact on 'correct voting' or choosing a party that best matches a voter's preferences. This is unexpected because the correct voting literature highlights the importance of information and the ability to understand political messages; and yet it seems in the Czech case that knowledge has an impact on the initial decision to vote. Chapter 12 reveals that higher political knowledge is not strongly associated with greater ability to correctly predict social developments. And finally, Chapter 13 shows that it is possible to predict differences in knowledge among Czech experts (economists) on the basis of the MAO model, and that Czech political scientists do not differ

**Figure I.4: Organisation of the topics and themes presented in this study of political knowledge in the Czech Republic, 1967–2014**

<i>Sections and chapters</i>	<i>Research topic</i>
<i>Introduction</i>	What is knowledge and why is it important?
<i>Theory</i>	
Chapter 1	Conceptualising political knowledge
Chapter 2	Modelling objective (factual) political knowledge
<i>Data and Measurement</i>	
Chapter 3	Overview of political knowledge in the Czech Republic (1967–2014)
Chapter 4	Survey response style and political knowledge measurement
Chapter 5	Objective and subjective political knowledge
Chapter 6	Objective, implicit and interpersonal political knowledge
<i>Determinants</i>	
Chapter 7	Determinants of objective and interpersonal political knowledge: means, motive and opportunity
Chapter 8	A comparative analysis of the determinants of being informed, uninformed and misinformed
Chapter 9	Objective political knowledge and personality traits
Chapter 10	Objective, implicit and interpersonal political knowledge and personality
<i>Consequences</i>	
Chapter 11	Impact of objective political knowledge on voter turnout and correct voting
Chapter 12	Objective political knowledge and prediction
Chapter 13	Expert knowledge and differences of opinion
<i>Conclusion</i>	What has been learned in this study about the origins, nature and impact of political knowledge in the Czech Republic (1967–2014)?

Note that this overview of the organisation of this book highlights the logic of the ordering of the chapters and how this book fits together. A central objective of this study is to explore the origins, nature and impact of four different types of political knowledge grounded in a survey-based empirical methodology. The introductory and concluding chapters sandwich the central theoretical and empirical chapters within an evaluative framework asking the big questions of what political knowledge is and why it matters.

significantly from non-experts (with lower levels of knowledge) in where they place political parties on a left-right scale.

This book contributes to the study of political knowledge in a number of ways. To start, this is the first systematic study of citizens' knowledge of politics in the Czech Republic and the post-communist countries of Central and Eastern Europe. Second, this book places the survey-based examination of political knowledge in the Czech Republic within broader discussions of knowledge and truth in philosophy (correspondence, coherence and pragmatism perspectives) and debates in political science where the concept of knowledge has had a range of empirical operationalisations. Third, this book shows institutional factors are not strong determinants of political knowledge, as few differences were observed across the Cold War divide, which is shown in Chapter 5. However, national culture does influence how respondents answer political knowledge questions in surveys, as will be shown in Chapter 4. Fourth, this book is unique in that in Chapters 5, 6 and 9 it explores four facets of political knowledge and shows how they differ in origin and nature. Finally, this volume reveals that different aspects of knowledge have contrasting foundations within individuals, as revealed through their personality traits (Chapter 9), and that where one places parties on a left-right scale is not strongly determined by level of political expertise.

# **PART 1: THEORY**



# Chapter 1: Conceptualising Political Knowledge

The core of the belief in progress is that human values and goals converge in parallel with our increasing knowledge. The twentieth century shows the contrary. Human beings use the power of scientific knowledge to assert and defend the values and goals they already have. New technologies can be used to alleviate suffering and enhance freedom. They can, and will, also be used to wage war and strengthen tyranny. Science made possible the technologies that powered the industrial revolution. In the twentieth century, these technologies were used to implement state terror and genocide on an unprecedented scale. Ethics and politics do not advance in line with the growth of knowledge – not even in the long run.

John Gray (2004: 106)

What I take to be Converse's [1990] most important insight – that differences among citizens in their levels of conceptualization and awareness are as consequential as differences in values and interests – is reflected in every important argument I make.

John Zaller (1992: 1)

People are not *uninformed* about policy, as political scientists continue to emphasize, but *misinformed*. People hold inaccurate factual beliefs and do so confidently. The problem, then, at least with respect to attitudes about public policy, is not that people simply lack information, but that they firmly hold the wrong information – and use it to form preferences.

J. H. Kuklinski et al. (2000: 792)

## Introduction

A central assumption behind democracy is that citizens have knowledge about politics and are able to select the best parties and policies on offer during elections. In this respect, political theory offers, as we will see, three broad schools of thought as to why political knowledge is an important criterion for evaluating the ability of citizens to function effectively within a liberal democracy. However, knowing how political interests and knowledge are related is but a first step in figuring out citizens' 'true' interests. Here there are three main approaches.

First, according to what might be termed the 'objectivist perspective' of political thought, interests can be defined on the basis of position within society. For this reason, political theorists as diverse as (a) Karl Marx and Friedrich Engels in their (implicit) references to 'false consciousness' (note Eyerman 1981; Eagleton 1991: 89), (b) Edmund Burke (1774) and J. S. Mill (1861) and their arguments for a 'trustee model of political representation', and (c) Steven Lukes (1971) with his extended view of power have argued that 'expressed interests' do not necessarily equate with true or objective interests, which are often only evident to those who are most informed. More generally, this objectivist approach

is essentially agnostic about the link between political knowledge and effective interest articulation because governance is largely the preserve of well-informed elites.

Second, within the 'subjectivist perspective' citizens' interests are viewed primarily from the standpoint of the individual and are not bound up with position in society, as the objective approach emphasises. The subjectivist position was adopted by the founders of utilitarianism such as Jeremy Bentham (1843), who asserted that 'generally speaking there is no one who knows what is for your interest, so well as yourself – no one who is so disposed with so much ardour and constancy to pursue it' (note also Mathiowetz 2011: 58–105; 164–165). Influential strands within the tradition of 'direct democracy', as espoused by Jean Jacques Rousseau (1762) and later proponents of citizen referendums, deliberative democracy, and supporters of opinion polling, all adhere to a broadly subjectivist view of political interests (Minar 1960; Fishkin 1995). In short, the subjectivist approach assumes that sufficient political knowledge resides within citizens and this is the basis for direct democracy.

Third, the 'true interest' school of thought, which is mainly composed of contemporary political theorists, conceptualises political interests in terms of fully informed preferences. Here citizens with low levels of political knowledge are less likely to express their true interests, as they do not know the consequences of their choices (Mansbridge 1983; Connolly 1993; Dahl 1989; Delli Carpini and Keeter 1996). In contrast to the objective and subjective perspectives, the true interest viewpoint advocates that a highly informed citizen is the most effective basis for liberal democratic states using frequent, fair and open elections to select governments. A key problem in demonstrating the consequences of different levels of political knowledge is how to define individuals' 'true' interests. Research over the last three decades demonstrates that definitions of political interests tend to follow one of two strategies.

The first approach focusses on which citizens are most informed and assumes that these are the best example of preferences matching interests. Practically this means that respondents in mass surveys are encouraged to give 'don't know' responses when they have no informed opinions rather than to make up answers on the spot. Polling organisations sometimes use this approach in an effort to define 'informed' public opinion. The key disadvantage of this methodology is that it results in selection bias because some socio-demographic groups, such as women and the poor, are more likely to say 'don't know'. As a result, the informed-citizen group is dominated by men and the rich, which is not a fair representation of society.

The second strategy emphasises the importance of the amount and quality of information available to citizens. Within this stream of research it is argued that high-quality information helps all citizens match their preferences with interests. This approach has been most closely associated with the 'deliberative opinion polls' research agenda, where a

random sample of citizens are interviewed both before and after they have been exposed to information on some salient policy question involving some difficult trade-offs, such as enhanced environmental protection through increased taxes or regulation of business (Fishkin 1991, 1995). This experimental methodology may be criticised on the grounds that it does not simulate how citizens in the real world become informed and express preferences (note, Converse 1970: 177–180; Delli Carpini and Keeter 1996: 283–284).

One can see from this discussion that the nature and importance of citizens' level of political knowledge is intimately tied up with larger questions, such as what political knowledge is and what the most desirable form of political state is. Consequently, this chapter will first discuss three philosophical views of truth and how they underpin competing views of knowledge used within political science. Section 2 explores the evolution of the contrasting views of what constitutes a sophisticated and informed citizen within political science. Section 3 discusses the link between political theory and citizens' level of political knowledge, and this is followed in Section 4 by an overview of some of the theoretical approaches informing the measurement of political knowledge. The penultimate section examines the key theme of the distinction between informed, uninformed and misinformed citizens. The concluding section highlights that political knowledge is a core concept in the study of democratic politics and that the rival conceptualisations reflect contrasting priorities over which facets of political knowledge are most important.

### **1.1 Contrasting Conceptualisations of Truth**

The overview of political knowledge presented above was grounded within three influential streams of theorising about the nature of citizen interests (i.e. objectivist, subjectivist and true). We have seen that the importance of political knowledge stems from seeing the value of truth because having knowledge of the truth facilitates understanding social reality. In this sense the search for truth is also a quest for knowledge, and for this reason contrasting theories of truth provide leverage in evaluating different approaches to political knowledge. Within this section the goal is to show that rival views of political knowledge using mass surveys are consonant with different conceptions of the nature of truth and hence knowledge.

Within the survey-based study of political knowledge there is the implicit assumption that specific statements can be proved true or false. This perspective fits with the Aristotelian view that the factual truth of a statement is a matter of 'correspondence' where the meaning of a statement (or content of a survey question) must match some observed real-world situation. For example, President Tomáš Garrigue Masaryk was the first President of the Czechoslovak Republic. This is factually correct. There are many situations where determining whether a statement

is true or false is less easy. For example, is it true that the sun rose this morning?

An astronomer would say that the dawn today did not in a strict sense involve the 'sun rising'. On the other hand, from an earth-bound perspective one could pragmatically argue that the dawn was accompanied by what appeared to be the 'sun rising'. Although not factually correct, such knowledge does match how dawn is observed on the earth. And so, here is a situation where there is knowledge that is true for a practical purpose but is not a fact in the scientific sense. A more political example would be: did the Czech electorate or President Miloš Zeman select the current (2014) government? Formally, the Czech President appoints a party leader to form a government on the basis of political norms and it is the voters who choose the government. However, the formal truth and the pragmatic reality where President Zeman (a) set the agenda for the termination of the previous government, (b) installed a technical government of his own liking, and (c) had a key role in the government formation process in late 2013 all suggest a more 'pragmatic' answer. Accepting that statements may exhibit various forms of truth, some of which are factual and others not, creates a dilemma for the study of political knowledge (note, Kuklinski et al. 1998).

Within the history of philosophy one may identify three main types of answers to this dilemma of what is the basis for determining truth and knowledge. Like philosophy, political science has been (a) fascinated with establishing truth and operationalising practical methods for measuring political knowledge among large populations and (b) simultaneously frustrated because political truth is not as simple to determine as it first appears. In the remaining part of this section the goal is to present three theoretical perspectives on truth that highlight some of the main debates within the survey-based study of political knowledge since the 1950s.

A comparison of the 'pragmatist', 'coherence' and 'correspondence' philosophical perspectives on truth, as shown in Figure 1.1, highlights some of the main dimensions across which contrasting conceptions of knowledge may be constructed. For example, although the pragmatist and coherence accounts of what constitutes knowledge both focus on the individual, the coherence perspective adopts a theoretical and ideological approach while pragmatism is instrumental and cognitive in nature. The main message of Figure 1.1 is that the definition of truth, and hence knowledge, can have different bases and operationalisations. This situation has important consequences for evaluating citizens' level of political knowledge.

### *1.1.1 The pragmatism perspective: knowledge is that which is useful*

This viewpoint was adopted in the social sciences by key figures in American pragmatic philosophy such as William James and John Dewey. The human mind, and the knowledge contained therein, is a product

**Figure 1.1: A comparison of different perspectives on political knowledge**

<i>Perspective</i>	<i>Level of analysis</i>	<i>Type of approach</i>	<i>Type of knowledge</i>
Pragmatism	Individual	Instrumental	Cognitive*
Coherence	Individual	Theoretical	Ideological**
Correspondence	Collective	Empirical	Factual***

Source: author

\* The cognitive type of knowledge reflects different styles of thinking and effective decision-making, e.g. the ‘hedgehog’ (specialist) versus ‘fox’ (generalist) distinction popularised by Berlin (1953) and examined systematically by Tetlock (2005: 54).

\*\* Ideological knowledge is typically viewed within social psychology in terms of ‘attitude constraint’ where a constellation of (policy) attitudes that exhibit a specific structure are taken as evidence of ideological thinking and hence political sophistication (e.g. Campbell et al. 1960; Converse 1964, 1970).

\*\*\* Factual knowledge has been popular in political surveys for decades because of the ease of implementing simple quizzes and interpreting the results as a form of ‘school’ test of citizenship for entire national electorates.

of an individual’s adjustment to their environment. This adjustment is primarily practical in nature and knowledge is oriented toward solving real-world problems, making decisions and undertaking actions. Such pragmatism yields a consequentialist conception of knowledge where a priori ideas play a less important role. The focus here is on the individual and how knowledge serves their self-interest or utility. Here knowledge may be interpreted in a relativist manner as depending on what each individual finds useful.<sup>6</sup>

The central point here is that individuals do not create truth, but are involved in its manufacture for pragmatic reasons. One of the main criticisms made against the pragmatic view of knowledge is that the truth of a statement can have a wide range of meanings. For example, it may be useful for democracy that most citizens trust parliament to act in the collective interest; however, this is different from the truth that parliament actually acts in this manner. Here one might argue in a similar vein to Nietzsche that the ‘untruth’ (trust in parliament resulting in political stability) is more useful than the ‘truth’ (where parliament cannot be trusted). Another criticism levelled against pragmatism is that it adopts the naïve view that the search for knowledge is objective and ignores motivated reasoning because individuals search for information that fits with their existing beliefs.

6 A succinct definition of the pragmatic view of truth or knowledge is the question posed by William James (1907: i, preface): ‘Grant an idea or belief to be true, what concrete difference will its being true make in anyone’s actual life? [...] What, in short, is the truth’s cash-value in experiential terms?’

Within political psychology a version of the pragmatic conception of knowledge is used to explore how the emotion of anxiety motivates the search for information. For example, Valentino et al. (2009: 596), in their study of knowledge-seeking using the internet, argue:

People should seek out information only if it is useful for achieving those goals or solving those problems. The utility of information available to people at the time when they feel anxious will help determine the nature and impact of the resulting search. If given a problem to solve, anxiety should channel information seeking in productive ways.

Here the value of knowledge or ‘information utility’, a concept developed by Sears and Freedman (1967), depends critically on the context in which citizens live. When people feel anxious during times of crisis the form of information utility desired will determine whether an individual seeks out specific or general knowledge. In other words, the motivation for political learning has a strong impact on the type of (pragmatic) knowledge acquired by citizens.

### *1.1.2 The coherence viewpoint: knowledge is based on a system of beliefs*

The view that truth is something where internal ideas match external reality through observation has been rejected by the philosophical tradition associated with Friedrich Nietzsche, which argues instead that knowledge and truth are a type of linguistic construct. The coherence perspective is focussed on grand theoretical conceptions of reality where the truth of a specific belief is primarily evaluated on how well it fits logically into a larger system of beliefs. For example, one might argue that a knowledgeable voter’s policy preferences will fit neatly into their economic left-right or social liberal-conservative ideological orientations. A central point here is that the general theory of political reality proposed, e.g. ideology, must correspond accurately with the real world of party competition. The pragmatist view of establishing a true or false link between an idea and a facet of reality is rejected. This is because most often knowledge is established between two statements and the external state of the world is not considered.

In other words, the coherence approach contends that knowledge is something that is consonant with current beliefs. There does not have to be a correspondence between knowledge and existing states of the world or empirical facts. A broadly similar idea is evident within German idealist philosophy in some of the works of Jacob Gottlieb Fichte and G. W. F. Hegel, where knowledge is seen to be ‘mind-dependent’ because of the pro-active relationship between current beliefs and new knowledge. The logical foundations of the coherence view of knowledge have been criticised using Kurt Gödel’s incompleteness theorem, first

published in 1931, which states that no (logical) system can prove its own consistency without recourse to something external.

Within political science, Campbell et al.'s (1960) 'levels of conceptualisation' approach to political sophistication, and hence the 'knowledgeable' citizen, is based on observing survey-based evidence of a coherent belief system. Here all political perceptions and experiences are integrated without the requirement that the set of beliefs are deductively connected to each other. Political sophistication is defined in terms of the structured relationship between a set of beliefs in which there are no contradictions.

### *1.1.3 The correspondence approach: knowledge is grounded in reality*

The final perspective examined may be considered a 'common sense' view of knowledge because a statement is considered true or false depending on its consonance with observable features of the world. One of the earliest exponents of this approach was Aristotle, who argued in his *Metaphysics* text that truth is something that matches some characteristic of the external world where observation allows internal knowledge to be verified by external reality. Many later philosophers, such as René Descartes, John Locke, David Hume, Immanuel Kant, J. S. Mill and Bertrand Russell, all expressed varying degrees of support for the correspondence approach to truth and knowledge. Consequently, this perspective has been very influential in guiding research on a citizen's level of political knowledge (Campbell 2002).

Within the correspondence approach, knowledge is equated with factual information that can be demonstrated to be either correct or incorrect. This contrasts with the coherence view of knowledge, where personal meaning is more important to establishing truth than factual information. The correspondence perspective has been criticised because it is incapable of resolving the famous 'liar's paradox' where the truth of a statement makes it false and its falsity makes it true. Such problems reveal that the correspondence approach is not a comprehensive framework for understanding all forms of knowledge. Measuring political knowledge using a battery of quiz items is currently the most influential approach that adopts a correspondence conception of truth (e.g. Zaller 1992; Delli Carpini and Keeter 1996).

### *1.1.4 Facets of knowledge and their inter-relationship*

This necessarily brief and oversimplified overview of some of the most influential theories of truth in the previous three subsections reveals that the conceptualisation of truth and knowledge may lead to very different conclusions about the nature, origins and consequences of political knowledge. Moreover, reviewing some of the main theories

of truth highlights the fundamental issue that the usefulness of truth and knowledge is contested. Within twentieth-century philosophy, Paul Ricoeur's (1970) famous reference to the three 'Masters of Suspicion', i.e. Nietzsche, Marx and Freud, shows that a strong case can be made for a critical rejection of the merits of truth and associated knowledge. This is because there are numerous examples of the benefits of deception.

Consequently, there is an inherent tension between the academic view that a knowledgeable citizenry is a pre-requisite for the effective functioning of democracy and the political practice where public representatives are known to employ strategic ambiguity and mendacity to ensure success. This disjunction between theory and reality suggests that political knowledge may be less about a search for truth and knowledge and more a case of 'self-deception'. In a famous quote, George Steiner (1975: 238) argues that language is essentially fictive and '[w]e secrete from within ourselves the grammar, the mythologies of hope, of fantasy, of self-deception without which we would have been arrested at some rung of primate behaviour or would, long since, have destroyed ourselves.'

From this self-deception perspective, the possession of factual political knowledge or coherent ideological beliefs does not represent an understanding of political reality. It should more correctly be seen as reflecting citizens' hopes and aspirations: things that have the merit of facilitating social and political progress and economic development. This 'self-deception' viewpoint connects neatly with Plato's notion of the 'noble lie' outlined in Book 3 of *The Republic* and later attributed to the neo-conservative ideas derived from Leo Strauss's (1978: 50–138, cf. 102) analysis of Platonic political theory.

This debate about the nature of truth and knowledge reflects old debates in Greek philosophy regarding 'logos', which is transcendent or pure knowledge in the realm of ideas, and 'metis' or knowledge that has a pragmatic purpose, including the use of cunning and deceit to achieved desired goals. In some ways, this logos vs metis distinction, as Campbell (2002) argues, reflects Isaiah Berlin's influential metaphorical distinction between two broad types of human intelligence or knowledge represented by the hedgehog and the fox. The hedgehog has a specialist knowledge and evaluates all facts in terms of this 'big thing', while the fox has general knowledge and judges events in terms of 'many things' springing from context. In addition, the ancient debate regarding 'physis' (knowledge of the laws of nature) and 'nomos' (knowledge of what human societies have created) again highlights the contested nature of all types of knowledge.

Within the empirical study of political knowledge, using mass surveys, there is never explicit mention of the advantages of citizens in democratic states knowing fundamental truths. For example, is it really true that democracy is the best form of government for all times and places? Influential pragmatist philosophers such as Richard Rorty (1991: 38–39) have argued against seeking knowledge of these types of essential truths

because it represents ‘an unfortunate attempt to carry a religious conception over into a secular culture’. From a pragmatic perspective, citizens’ search for political (and all other types of) knowledge is an engine for change and development. In sum, what matters most are the ‘metis’ and ‘nomos’ variants of knowledge. These motivate citizens to strive for both their own personal welfare and the collective good.

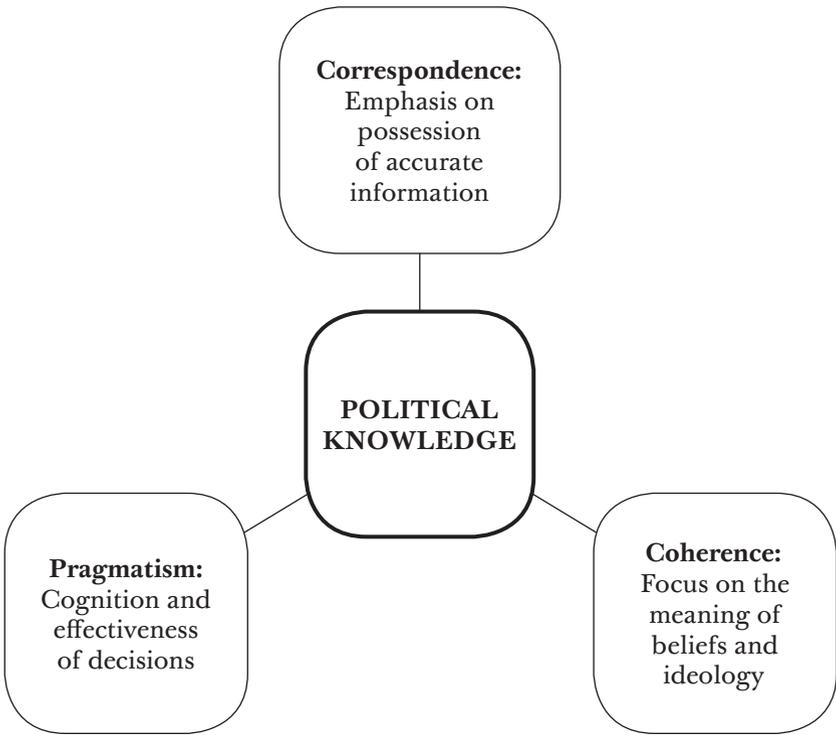
There is of course a great political risk in accepting the ‘Masters of Suspicion’ (i.e. Nietzsche, Marx and Freud) relativism where precise factual knowledge is replaced by a multitude of competing interpretations. When the precise meaning of language and knowledge breaks down this has often been the context in which authoritarian regimes have emerged with national- or class-based myths. For example, Václav Havel’s play *The Garden Party* presents a parody of the absurdist use of language to justify any imaginable political goals (Havel 1993). Consequently, advocates of the correspondence approach to truth argue that this perspective fits better with the democratic view that citizens should value facts that reflect social reality and should reject utopian beliefs that are often the basis for non-democratic regimes (note Kuklinski et al. 1998).

In order to tie together the theoretical arguments presented in this section, Figure 1.2 shows how the three conceptions of truth discussed above contribute to an understanding of the nature, origins and consequences of political knowledge. Figure 1.2 highlights that each facet of political knowledge is based on contrasting principles: effectiveness, meaning and accuracy. This figure also reveals the primary origins of knowledge, which is based on (1) an external orientation for pragmatism and correspondence approaches and (2) an internal personal view where the coherence of beliefs depends on their integration into a larger belief system that encapsulates a partial view of reality. A key point here is that the pragmatist and correspondence theories of truth adhere to a holist viewpoint because facts must reflect all of reality for them to be useful knowledge. This holism reflects the priority of making effective decisions based on accurate information. In contrast, the coherence theory of truth is primarily concerned with meaning and specific aspects of reality are emphasised.

Figure 1.2 also suggests that the pragmatist and coherence perspectives tend to view political knowledge as a latent trait that is something that reflects underlying individual abilities that can only be measured with many indicators. In contrast, the correspondence theory focusses on having accurate information and is less concerned with any personal underlying abilities such as having a coherent belief system. Later, in Chapter 2, we will see that it is possible statistically to relax this assumption and view responses to true/false statements as evidence of an underlying latent trait of political knowledge.

Having outlined a broad theoretical framework for evaluating contrasting approaches to the study of truth and knowledge within empirical political science, it makes sense at this point to switch attention

**Figure 1.2: Relationships between political knowledge and the pragmatism, coherence and correspondence perspectives**



<i>Theory</i>	<i>Orientation</i>	<i>Viewpoint</i>	<i>Principle</i>	<i>Focus</i>
Pragmatism	External	Holist	Effectiveness	Decision-making
Coherence	Internal	Partial	Meaning	Belief structure
Correspondence	External	Holist	Accuracy	Information

Source: author

Note this figure summarises some of the main facets of three key philosophical perspectives on truth and knowledge, and how these conceptualisations are reflected in a political scientist’s study of political knowledge.

to how mass surveys in the past measured political knowledge. As we will see, contemporary debates within political science regarding survey-based measurements of political knowledge and interpretation of the results often implicitly reflect the three theoretical approaches to truth discussed above.

## 1.2 Evolution of the Conceptualisation of Political Knowledge

The previous section highlighted the importance of information about politics in the study and evaluation of democratic systems of representation. Most thinking about information and knowledge within political science has been influenced by cognitive psychology, where the most fundamental political cognitions are seen to be facts about political actors, institutions and public policies. Delli Carpini and Keeter (1993: 1179) noted that in the United States the measurement of objective political knowledge has no definitive operationalisation. This is unlike concepts such as party identification, trust, efficacy, or tolerance which are most often asked using standard questions. This is because the content of factual political knowledge changes over time as office-holders are replaced and institutions change.

An overview of a selection of definitions of political knowledge in its various guises is shown in Figure 1.3. A common theme in these definitions is that knowledge (1) is the basis for making rational choices, (2) relates to knowing who is in government, (3) is linked with being aware of how government works, (4) is acquired continuously from childhood and (5) is associated with level of education but is not co-terminous with the duration of schooling.

The final point highlights the importance of interest in politics because this motivating factor often compensates for educational deficiencies: a point which implies that some highly educated citizens are politically illiterate. Figure 1.3 also highlights that with rival conceptualisations of political knowledge the degree to which citizens know and understand politics is disputed. What scholars consider important knowledge for effective and competent citizenship is 'determined within, not outside, politics', and is by definition contested (Kuklinski et al. 1998: 303).

This 'contested' nature of political knowledge measurement is reflected in the history of how political knowledge questions have been used within mass surveys since they were first undertaken in the United States in the 1930s. Early political survey research undertaken by Gallup and other companies asked short sets of factual questions about politics. A similar strategy was used by Berelson, Lazarsfeld and McPhee's (1954) seminal exploration of the sociological determinants of voting behaviour. Consonant with Walter Lippmann's (1922, 1925) pessimistic view about the low level of political knowledge among most citizens, this early fact-based research revealed little knowledge among the American public. Consequently, the fielding of political knowledge quizzes

**Figure 1.3: Survey-based definitions of citizens' information about politics**

<i>Concept</i>	<i>Source</i>	<i>Definition</i>
Political awareness	Zaller (1992: 21)	'the extent to which an individual pays attention to politics and understands what he or she has encountered'
	Bartle (2000: 473, 2005: 664)	Factual knowledge, interest in politics and policy knowledge; 'Those with a general interest in politics... who know party positions... and who read quality newspapers...'
	Claassen (2011)	'I measure chronic political awareness using the interviewer's rating for "how knowledgeable the respondent was about politics."
Political knowledge	Delli Carpini and Keeter (1996: 10)	'the range of factual information about politics that is stored in long-term memory'
	Fiske et al. (1990: 31)	'(a) accurate consensual knowledge about liberals' and conservatives' issue stands, plus various individuals' and groups' ideological stands, (b) the issue stands of the president and one group, and (c) facts about the government'
Political expertise	Funk (1997: 679-680)	'By definition, political experts hold more information about politics.' 'Political experts... process politically relevant information faster and to recall more of it than their more novice counterparts...' 'Political experts are thought to process information in a more complex way...' 'Experts are better able to form differentiated knowledge structures by incorporating both schema-congruent and incongruent information.'
Political literacy	Crick and Porter (1978: 33); Crick (1998: 13)	'A politically literate person will know what the main political disputes are clearly about; what beliefs the main contestants have of them; how they are likely to affect him, and he (sic) will have a predisposition to try to do something about it in a manner at once more effective and respectful of the sincerity of others.' 'Pupils learning about and how to make themselves effective in public life through knowledge, skills and values - what can be called 'political literacy', seeking for a term that is wider than political knowledge alone.'

<i>Concept</i>	<i>Source</i>	<i>Definition</i>
	Cassel and Lo (1997: 317–318)	‘political literacy cannot be measured directly, but we presume that if people are politically literate, they understand party differences and know basic political concepts and facts.’ ‘political literacy and political expertise are virtually the same concept...’ ‘We know the strongest predictors of political literacy are education and political involvement. Theories about what process causes these factors to determine political literacy differ over whether it is an internal psychological force, an external force imposed by social roles, or influenced directly by agents from social institutions.’
	Denver and Hands (1990: 263)	‘the knowledge and understanding of the political process and political issues which enables people to perform their roles as citizens effectively.’
Political sophistication	Luskin (1987: 867)	‘extensive, organized knowledge’
Ideological awareness, or political sophistication	Campbell et al. (1960); Converse (1964)	Ideological thinking based on an abstract political philosophy that structures political opinions. Ideological awareness means that citizens’ understand abstract concepts such as ‘liberal’ and ‘conservative.’ Ideological awareness implies a cognitive structure that makes it easier to receive and store political information. For a critical review of ideological sophistication, see Luskin (1987).
Civic competence	Strate et al. (1989)	Political knowledge, interest in politics, and media exposure are components of civic competence. Krosnick (1990) and Zaller (1992) use a similar approach for ‘political expertise’ and ‘political awareness.’
Civic literacy	Milner (2002)	‘the willingness and ability to engage in public discourse and evaluate the performance of those in office. We do so by, in effect, operationalizing these two aspects of citizenship as measurable dimensions of civic literacy: ability manifesting itself in the form of political knowledge and willingness in the form of political participation.’

Source: Highton (2009: 1564). See also Figure 7.1 for a list of concepts used by scholars exploring political knowledge effects on political participation and party choice, etc.

in national surveys was abandoned because the results were always the same: the public knew little about politics.

Political scientists employing insights from social psychology moved away from evaluating voters in terms of level of factual knowledge towards exploring the level of structure in their political attitudes and beliefs. The Michigan Voter Model, for example, asked sets of questions that allowed the study of respondents' belief systems and individuals' cognitive complexity through a classification of American voters on the basis of their 'levels of conceptualisation' (Campbell et al. 1960; Converse 1964a). Here those interviewed described in their own words perceptions of parties rather than correctly recalling political facts in a quiz.

The emphasis on cognitive structure rather than informational content combined with a heated debate about survey measurement facilitated the emergence of Schema Theory in the study of political attitudes during the 1970s (Axelrod 1973). Schema theory asserts that all knowledge is organised into units called schema (the plural is schemata), and all information are stored in these schemata. This information processing perspective highlighted the importance of learning, where cognitive frameworks are seen to facilitate the organisation and interpretation of large amounts of beliefs and facts (Dixon 2006). Political schemata are both types of knowledge and the process through which information is learned (Graber 1984). In other words, political sophistication, competence and ideological thinking, etc., refer to the possession of facts and how they are learned and stored in memory (Bennett 1977; Conover and Feldman 1980, 1984).

A key problem with schemata and all 'coherence-based' cognitive structures is that schemata may block political learning. This is because the cognitive structure effectively discounts particular types of new information because it does not fit within the current framework (note also Taber and Lodge 2006; Lodge and Taber 2013). This is the basis for various forms of cognitive biases and the presence of prejudice and intolerance in society (Kahneman 2011). By the late 1980s, there was a growing acceptance that the organisation of political cognitions into belief systems should not ignore the possession of information. Luskin (1987: 860) asserted that political sophistication is determined by three criteria: (1) the size of the information content of a person's belief system, (2) the range of an individual's political thinking or cognitions, and (3) the organisation of a person's thinking into a coherent mental framework such as a schema or set of schemata.

With the re-emergence of political quiz items in surveys a series of studies reported that factual or objective political knowledge scales are the best predictor of all concepts associated with political sophistication, such as expertise, competence, literacy, awareness and engagement (e.g. Luskin 1987; Krosnick and Milburn 1990; Zaller 1992). Although factual political information is currently the main method of evaluating citizen competence, there is no standard battery of questions (as is often

the case in psychological scales) for measuring political knowledge. This is because the definition of what is a 'political fact' and which facts are important is often contested (Kuklinski et al. 1998: 304ff.).

Consequently, the designers of political surveys frequently use batteries of different quiz questions to classify respondents as being 'high' or 'low' knowledge citizens. This subjective choice of political facts for testing has led to persistent concerns about the validity and reliability of measuring political knowledge especially in comparative research (Delli Carpini and Keeter 1993; Elff 2009).

### 1.3 Public Opinion, Knowledge and Citizen Competence

The current popularity of liberal representative democracy is in historical terms unprecedented. In the past, most political theorists were sceptical that the dangers of instability inherent in democratic government could be effectively managed. Above it was noted that Plato argued in *The Republic* democracy was dangerous: citizens have neither the experience nor the knowledge required for good judgement and are likely to be manipulated by cynical leaders (Plato and Lee 1987).

Later, American liberal philosopher Walter Lippmann argued in *The Phantom Public* (1925) that the wish of an ordinary person to be a good citizen was similar to the wish of a fat man to be a ballerina. In a similar vein, liberal economist Joseph A. Schumpeter in *Capitalism, Socialism and Democracy* (1943) argued against democracy because of citizens' inability to follow and understand complex arguments or make rational decisions.

An overview of the development of scholarly work on citizen knowledge within political science from the 1950s onwards is presented in Box 1.1. This brief overview highlights some of the main themes and researchers and also reflects important differences in how political knowledge has been operationalised and analysed. In the following paragraphs some of the key ideas in Box 1.1 will be explored in greater detail. Prior to the 1950s there was limited empirical evidence, coming mainly from commercial polling companies such as Gallup, that most citizens simply did not know enough to participate sensibly in government decision-making. Public opinion research from the 1950s to the 1970s indicated one pervasive pattern: minimalism. Sniderman (1993: 219) argued that public opinion during the post-war period was characterised by:

- Minimal levels of public attention and information
- Minimal use of abstract political concepts such as liberalism and conservatism
- Minimal stability of political preferences
- Minimal levels of consistency between attitudes on different topics

### Box 1.1: Simon's paradox and limits on knowledge

Most research on political knowledge emphasises what is (or is not) in an individual's mind. Herbert A. Simon (1955), winner of the Noble Prize in Economics in 1978, argued that individuals are limited by two constraints: (1) the amount of information they possess, and (2) their ability to use that information. Simon's paradox is resolved when individuals use 'second best' knowledge strategies to solve difficult questions by converting them into easy ones by using information available in the social environment.

#### *1. Communication (early voting studies, Berelson, Lazarsfeld and McPhee 1954)*

Average citizens may not exhibit high levels of knowledge; however, they are able through interpersonal communication, and the media, to discover the view of opinion leaders who do have the requisite expertise. This 'two-step flow of information' model of communication between leaders and citizens has been criticised because it oversimplifies socio-political reality where political institutions are ignored and yields biased results.

#### *2. Pluralism and issue publics (early voting studies, Berelson, Lazarsfeld and McPhee 1954)*

Citizens do not need high levels of knowledge and be experts on all public policy topics. With delegation different groups of citizens have expertise in a variety of policy domains. Issue publics are experts in domains that are of direct interest to them. This perspective has been criticised because it assumes that pluralism of interests and knowledge coincide, and this is often not the case.

#### *3. Political context and polarisation (1970s)*

The political context plays a key role in determining if citizens are motivated to become highly knowledgeable. When the situation requires big decisions to be made then party competition and polarisation often increases. This motivates citizens to become more engaged, and hence more knowledgeable. This linking of knowledge with context has been criticised on empirical grounds because the general level of citizen knowledge as measured in surveys has been consistent since the 1950s in the United States.

#### *4. Methodology and measurement error (1970s)*

Survey-based estimates of low levels of knowledge among citizens are a methodological artefact of due to measurement error. Innovations in the measurement and modelling of political knowledge have not resulted in systematically higher levels of citizen knowledge suggesting that the substantive findings of early research remain valid notwithstanding their technical limitations.

#### *5. Knowledge and political stratification (1980s) [Neuman 1986]*

Political knowledge forms part of a more general concept called 'political sophistication' which is an amalgam of interest in politics, knowledge, and conceptualisation of politics. Highly educated citizens are not necessarily politically sophisticated. Citizens are divided on the basis of distribution of political knowledge into 3 groups: apoliticals, a large middle class, and a small elite of political sophisticates (<5% of electorate). Knowledge is important because it facilitates unequal access to decision-makers who assume sophisticates' attitudes constitute public opinion.

6. *Elites, media exposure and knowledge (1990s) [Zaller 1992]*

Political awareness, or knowledge, plays a critical role in mediating elite messages to the masses. Level of knowledge influences (a) which ideas or 'considerations' in a citizen's mind are impacted and (b) how strongly. Voters have a variety of considerations on specific issues. How an individual responds to elite messages carried in the media depends on how the message is framed. Knowledge plays a key role in determining which elite and media messages are influential.

7. *Heuristics (2000s) [Simon 1955; Gigerenzer 2008]*

Citizens make sensible political decisions in the absence of knowledge by using strategies such as (a) imitating what highly informed citizens do or (b) using signals of quality like party labels and leadership endorsements. Here low knowledge is not problematic because use is made of the social environment to compensate for information that is unavailable. Critics argue that use of heuristics requires knowledge and so does not remove the need to be informed in the first place.

This empirical evidence motivated scholars to ask a number of fundamental questions. Can political elites and the public communicate with one another effectively? Do they speak the same political language? Philip E. Converse, an influential American political scientist, was the first to systematically examine this fundamental question. Using national panel studies undertaken in 1956, 1958 and 1960, Converse (1964: 216–217) attempted to estimate the extent to which American citizens used standard political concepts such as 'liberalism' and 'conservatism' in expressing political attitudes. He found that use of ideological reasoning was restricted to about 3% of the American population, with a further 9% using ideological reasoning some of the time. While 42% responded to parties and candidates in terms of group benefits; 24% to the 'goodness' or 'badness' of the times; and the remaining 22% exhibited no ideological reasoning at all.

Converse (1964) also examined the possibility that citizens were not able to explain in survey interviews the ideological basis for their political attitudes. He compared two samples – a national cross-section of the American public and candidates who sought election to the House of Representatives. Candidate positions on (eight) domestic and foreign policy issues showed some consistency while those of the public showed no consistency at all. Converse (1964) found that aggregate opinion change between 1956 and 1960 was negligible. However, there was a great deal of change at the individual level during the same period. In fact, Converse discovered that less than two-thirds of the public came down on the same side of a policy issue when interviewed on three occasions: a consistent level of 50% would be expected on the basis of chance.

An examination of the reasons for these individual-level changes illustrated that the American public were made up of two distinct groups.

The first minority group, most often composed of elites, had stable opinions that were sometimes organised into a structured belief system or ideology. The second majority group of people were indifferent or ignorant of politics and admitted to not knowing anything or invented an opinion called a ‘non-attitude’. According to Converse, non-attitudes were encountered more frequently than real attitudes.

In short, most Americans in the late 1950s had neither stable political attitudes nor coherent belief systems, and hence did not think in an abstract ideological or sophisticated manner. This majority had in effect little knowledge of politics and were effectively ‘know-nothings’ (see also Hyman and Sheatsley 1947; Bennett 1996). Subsequent research over the last seven decades has often replicated these ‘know-nothing’ results.

### *1.3.1 Citizens are not idiots, but simply disinterested and uninformed*

The idea that citizens might be ‘know-nothings’ initiated a wide-ranging debate in political science. In essence, there have been three streams of criticism of Converse’s (1964) general conclusion that most Americans are uninformed and non-ideological and have unstable political attitudes, and that their policy preferences reflect partisanship rather than knowledge.<sup>7</sup> This implied that voting decisions were often made on the basis of habit, ignorance or whim, and that most citizens do not make informed choices. The common theme in each of these criticisms is an acceptance that many citizens are indeed uninformed and do not have much factual knowledge of politics; however, this does not necessarily mean that representative democracy has a fundamental flaw. Democracy does not necessarily require that *all* citizens be informed, but it does require that many citizens are clever enough to figure out which parties and candidates will best represent their interests. From this revisionist perspective it was argued that it was better to see citizens as having the capacity to understand politics but often lacking the motivation to do so.

Some critics of Converse’s (1964) conclusions argued that the 1956–1960 period was a rather quiet period in American politics, and during such phases it was not surprising that the public exhibited little interest in politics. This critique was subsequently shown to be unconvincing. Citizen knowledge of politics did not increase during the more turbulent late 1960s and early 1970s. In short, the American public never exhibits sophisticated thinking about politics and public policy making. Subsequent research in the United States, Britain and France illustrated that not having stable political attitudes, or having non-attitudes, was widespread across all demographic groups (Converse and Markus 1979; Butler and Stokes 1974; Converse and Pierce 1986).

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<sup>7</sup> More formally Converse (1964a) developed a ‘black-and-white’ model of political knowledge and attitude stability as measured in panel surveys.

In contrast, Achen (1975) and Erikson (1979) argued that attitude instability might be a result of measurement error rather than a consequence of public ignorance and indifference to politics. However, Converse (1970) argued that opinion instability could not be reduced solely to problems with survey questions. He contended that attitude stability should be strongly related to citizens' level of knowledge. However, when survey questions were made less ambiguous and presented in a clear way in later research, the level of attitude stability increased as Achen and Erikson had predicted.

Subsequent research by Zaller and Feldman (1992) and Zaller (1990, 1992) disagreed (a) with Converse's (1964a, 1970) view that citizens have no real views on politics and (b) with Achen's (1975) argument that attitude instability was due to measurement error. Using a new theory of how respondents answer survey questions, the Zaller critique argued that citizens are ambivalent about many political issues. This is because most people find it difficult to give precise answers to survey questions that could be answered on the basis of a large number of considerations that could change over time. In essence, the argument here is that citizens have too many ideas about public policy making, and it is this confusion which gives the appearance of opinion instability in surveys. Attitude measurement in mass surveys depends on the interview context and the nature of the questions asked.

If issues are 'framed' (i.e. accompanied by recommendations as to how issues should be understood) by elites, then public opinion tends to be more consistent and stable. Regardless of elite messages on policy, some issues which relate to moral, ethnic or religious questions do elicit high levels of 'true' opinions that are stable. Converse (1964a) felt that elites and the public do not communicate effectively with one another, and this fact has some important implications for the functioning of democracy. However, most of his evidence related to citizens rather than political elites. Analysis of the strength and stability of elite attitudes in the United States, Italy, France and Sweden has revealed that there is considerable stability in elite attitudes and, in fact, much more than that evident among the general public (Jennings 1992; Putnam, Leonardi and Nanetti 1979, 1993; Converse and Pierce 1986; Granberg and Holmberg 1996). This is a topic that will be explored in Chapter 13.

#### **1.4 A Critique of Objective Political Knowledge**

A key justification of the value of political knowledge is that citizens can only make informed choices in elections if they have the facts. One articulation of this perspective makes explicit the idea that a market economy needs money while democracies require information to function. Michael Delli Carpini and Scott Keeter (1996: 8) highlighted this point by stating: 'Political information is to democratic politics what money is to economics; it is the currency of citizenship.' Here it is assumed that

information is readily available and that objective political information is the basis for choosing preferences (Kuklinski et al. 2000: 791). The belief that citizens in a democracy must be informed may be criticised (1) as being unrealistic and undesirable, (2) for supposing that unbiased political information is readily available, and (3) for assuming that greater knowledge leads to more rational and hence better decision-making.

The first point highlights that many political facts are of little daily practical use to most citizens and do not help them make electoral choices. Consequently, it is not surprising that many voters are unable to correctly recall political facts (chosen by a researcher) in post-election interviews. It is also possible that non-cognitive abilities, rather than a good memory for political facts, are more effective (and hence more widely used) for making political choices. Philip E. Tetlock's (2005) unique study of 284 experts, fielded between 1983 and 2004, yielding about 82,000 political predictions, found that those with a broad knowledge of public affairs were more successful than specialists.<sup>8</sup>

In addition, it is not obvious that having a large majority of citizens with high levels of factual knowledge is desirable. Pervasive levels of public ignorance and apathy could be an important foundation for democratic peace and stability (Berelson, Lazarsfeld and McPhee 1954: 308ff.). Here the social context of voting which operates through processes of socialisation and conformity tends to reinforce political attitudes learned in the family. Consequently, information and knowledge that are inconsistent with prior beliefs are ignored (note, Festinger 1957; Lodge and Taber 2013). Highly informed citizens with a strong interest in politics and heavy media users are often strongly opinionated, which results in a more polarised and negative form of politics in which sensible compromises are less likely (note, Palfrey and Poole 1987; McCarty et al. 2006; Abramowitz and Saunders 2008; cf. Fiorina et al. 2010).

Secondly, the supply of political messages and information depends critically on context and more specifically on the people directly involved in public decision-making (Kuklinski et al. 2001; Jerit and Barabas 2006). It is not always clear that political representatives, bureaucrats and the media have incentives to provide objective factual information to citizens. In a study of political misinformation, Kuklinski et al. (2000: 792) highlight that a core feature of public opinion is not that it is uninformed, but that it is misinformed. In this respect, holding incorrect political knowledge may be worse than having no knowledge and being honest about being ignorant (Kuklinski et al. 2000; Nyhan and Reifler 2010). This is because false knowledge acts as a 'barrier to factually educating citizens' and leads to public policy preferences that reflect misinformation and potentially to a collective cost. Consequently,

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8 In fact, all the experts did little better than chance in successfully predicting future events more than five years ahead. A statistical algorithm that extrapolated from past events did better than all the human experts. Later research found that the experts did better with shorter-term forecasts of one year or less (Tetlock and Gardner 2015).

it is better to conceptualise citizens' level of political knowledge in terms of three groups: informed, uninformed and misinformed citizens.

Third, rational decision-making and knowledge are different things because rational choices depend critically on how information is used to inform decision-making. Within this book, a decision is rational when knowledge is used to weigh the costs and benefits of an action the outcome of which is personally desirable. If a person does not evaluate their knowledge of the costs and benefits in terms of the criteria of 'completeness', 'transitivity' and 'independence of irrelevant alternatives', then they are not making rational choices (Hindmoor 2006: 184–199). Rational decision-making assumes perfect knowledge of all potential outcomes and the cognitive ability and time to rationally consider all options.<sup>9</sup> In reality, knowledgeable people make bad choices as a result of various forms of psychological biases, while 'know-nothings' can make apparently rational choices using simple rules or heuristics that allow for efficient decision-making in complex situations (see Sniderman, Brody and Tetlock 1991; Lupia and McCubbins 1998).

## Conclusion

Political sophistication has been a central theme in the empirical study of citizens' democratic attitudes and political behaviour (e.g. Berelson et al. 1954; Campbell et al. 1960; Key 1961; Almond and Verba 1963; Converse 1964a; Page and Shapiro 1992; Zaller 1992; Althaus 2003). The opening quote of this chapter by British political philosopher John Gray (2004: 106) highlights that higher levels of knowledge bring both great good and terrible evils, as the violent history of the twentieth century demonstrates.

Within political science few scholars point to the 'dark side' of higher political knowledge. Having well-informed citizens is viewed as a collective good like money and wealth. We know from development economics there is a 'wealth curse' and from monetary economics that more money brings inflation whereby wealth loses value. In politics, the possibility that higher knowledge might foster polarisation and conflict in society is often ignored.

There is survey evidence from the contemporary United States (1990–) which suggests that higher levels of knowledge lead to greater polarisation in society: a situation that undermines social cohesion and creates the conditions for civil conflict (Fiorina et al. 2010; Abramowitz and Saunders 2008; Federico and Hunt 2013). Previous research by Palfrey and Poole (1987) for the divisive Reagan era (1981–1989) found that higher levels of political sophistication were associated with more

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9 Keith E. Stanovich (2009) makes a similar point with regard to intelligence as measured by an IQ test. People with a high IQ who make bad choices suffer from 'dysrationalia'. The key lesson here is that knowledge and intelligence are not guarantees of better choices.

extreme ideological positions. On the one hand, within political science, as Zaller's (1992: 1) quote at the start of this chapter highlights, it is the empirical observation that the mean level of knowledge is low and the variation in such knowledge is high which has been of most interest to researchers. On the other hand, there have been few studies that deal with the larger question of the political consequences of having all citizens highly informed. Would this be a clear collective good with no disadvantages?

Currently, there is no comprehensive answer to this key question in liberal democratic societies that take pride in providing citizens with access to increasing amounts of information about all aspects of society. Generally, the focus in political science has been on showing (1) how being uninformed or misinformed has bad consequences for the effective functioning of democracy and (2) how a knowledge-based segmentation of society may be of more consequence than class or other group-based divisions (note, Converse 1964a, 2000: 332–334; Zaller 1992: 333ff.; Lachat 2007).

The existence of significant differences in knowledge among citizens suggests that a segmentation of the electorate on this basis may be one of the best means of explaining political attitudes and behaviour. Here the focus is on those who are informed versus the 'know-nothings'. Perhaps the reality of mass politics is more complex and factual knowledge on its own is not sufficient to evaluate the competence of citizens. The final epigraph posted at the start of this chapter highlights the pivotal importance of citizens confidently making choices on the basis of 'false knowledge' or being misinformed. Within current debates on climate change there is evidence of public resistance to a scientific consensus that there is man-made climate change. Research on the popular refusal to accept this conclusion from climate science reveals that knowledgeable citizens are selecting which facts to believe on the basis of prior beliefs (Kahan et al. 2012; Kahan 2015). In short, facts are not treated neutrally by citizens because, as Kuklinski et al. (1998) highlight, facts are created within the political process and are by definition contested.

These points highlight that there is currently no generally accepted definition, conception or measurement of political knowledge. In large part for reasons of convenience, the current convention is now to operationalise citizen sophistication in terms of ability to successfully recall political facts in a survey interview. Almost two decades ago, Neuman (1986: 190) concluded that political knowledge research 'remains at the "preparadigmatic stage" where the domain is ill defined, theories are vague and partial, and measurement techniques are not yet convergent'. This assessment remains valid. It is true that the work of Zaller (1992) and others has highlighted when and how differences in political knowledge are important. Nonetheless, the prevailing conception of political knowledge remains tied to mass survey methods and their limits. Facets of knowledge that cannot be easily measured in surveys have been ignored.

As a final point, it is important to stress that the division of citizens into informed, uninformed and misinformed groups implies that there is a definitive way of determining whether a piece of political information is correct or incorrect (Kuklinski et al. 1998). Typically it is assumed that there is a clear-cut answer, most often defined by an expert. However, it is also possible to adopt a 'democratic' position and define political knowledge as the collective knowledge of citizens and not a small minority of experts. In other words, political knowledge is what a plurality or majority of citizens believe to be true.

This reflects a 'cultural consensus' theoretical approach to knowledge, which builds on (1) the social choice insights of Condorcet's Jury Theorem, which shows collective decision-making is usually superior to individual choices, and (2) findings from statistics that large groups often have better estimates or answers to questions than the individuals who compose such groups (Romney, Weller and Batchelder 1986; Weller 2007). This cultural definition of knowledge is a theme that will be taken up later in Chapters 5 and 7.

Before embarking on empirical analyses of the determinants of political knowledge and the impact of differences in knowledge on political attitudes and behaviour, it is fundamentally important first to examine how political knowledge questions in surveys are modelled. With the implementation of a set of knowledge questions in mass surveys it is not immediately obvious how to rate respondents. As we will see, simple test scores based on the number of factually correct answers is only one means of evaluating citizens' knowledge.

# Chapter 2: Modelling Objective Political Knowledge

We deal with facts all the time, yet there is no consensus on the meaning of the very word 'fact,' particularly since in ordinary language it is often confused with either 'datum' or 'truth.' This confusion is likely to stem from Sanskrit, whose word *satya* means both 'existent' and 'true.' So there is room for puzzling. Are laws and rules facts? Are there general facts? Are social constructions such as legal codes, facts? Is it a fact that  $2 + 2 = 4$ ? How do propositions relate to the facts in the external world? [...] Such puzzles about the meaning of the term 'fact' are not just lexicographic quibbles, because the right way of dealing with an item X depends crucially on the nature of X.

Mario Augusto Bunge (2006: 9)

The term data is used here to refer only to what is analyzed. As will be evident, the same observations may frequently be interpreted as one of two or more kinds of data. The choice is an optional decision by the scientist and represents a creative step on his part in collecting the data he analyzes. It is the different kinds of data and their interrelations with which this theory [of data] is concerned [...] The restricted meaning that is given here to the term data arises from the fact that it has two common uses in behavioral science. The term is commonly used to refer both to the recorded observations and to that which is analyzed. This distinction seems a subtle and difficult point to some on initial contact with the theory of data [...]

Clyde H. Coombs (1964: 4)

## Introduction

The measurement of objective political knowledge using a battery of survey questions involves explicit and implicit measurement models that become evident in the statistical technique used to analyse the data. Political knowledge is most often measured using a quiz with a multiple-choice format, where the correct answer is coded as one (1) and all other answers (i.e. incorrect, don't know, no answer) are coded as zero (0). However, there is no a priori reason why multiple-choice knowledge answers could not be modelled as polytomous data reflecting being misinformed, uninformed and informed, where incorrect answers refer to being misinformed.

The opening quotes from an influential philosopher of science and a mathematical psychologist (psychometrician) highlight that it is fundamentally important to link how the responses to factual political knowledge questions are recorded with the way these data are used in statistical models. Correct, incorrect and non-responses to factual political knowledge questions require a clear interpretation. For example, is political knowledge an ability that reflects some latent trait or is it a score on a test? Answers to such questions require an explicit theory of (1)

what political knowledge questions measure and (2) what the resulting data mean when analysed using a specific statistical technique.

Many parts of this book will conceptualise objective political knowledge as a latent trait where differences in the difficulty of factual quiz questions will facilitate estimating each respondent's level of political knowledge. Consequently, this chapter will outline and demonstrate the use of the Item Response Theory (IRT) approach to modelling political knowledge quiz items and estimating an individual's level of knowledge as a latent trait. The IRT approach to conceptualising and modelling objective political knowledge questions is one of the best approaches to analysing and interpreting survey-based knowledge items for two reasons. First, it provides an explicit model of what objective political knowledge is: it is an ability that is measured as a latent trait using a set of quiz questions. Second, IRT models are not survey-dependent, meaning that the estimates for one survey are comparable across surveys because of the latent trait perspective on political knowledge adopted. Consequently, it is possible to deduce using IRT estimates that the level of political knowledge has remained largely constant among Czechs between 1996 and 2013 (see Chapter 3).

This chapter begins with an overview of modelling objective political knowledge questions, and this is followed in Section 2 by a profile of the political knowledge data used in this and subsequent chapters – i.e. the political quiz fielded in three consecutive Czech National Election Studies (2006, 2010 and 2013). This is followed in Sections 3 and 4 by a discussion of the Classical Test Theory (CTT) and Item Response Theory (IRT) approaches to the analysis of knowledge data. In Section 5, there is a comparison of CTT and IRT modelling results, and this is followed in the final part by some concluding comments emphasising that how factual knowledge data are analysed depends critically on how a researcher conceptualises these data.

## **2.1 Modelling Objective Political Knowledge Quiz Scores**

Even if one is willing to assume that individual citizens' level of objective or factual political knowledge can be measured using a battery of survey questions, there is still the issue of how to analyse the resulting data. One popular option is to treat the factual political knowledge questions as a test in which more correct answers imply higher levels of knowledge. This modelling approach has the advantage of being intuitive and simple to interpret. A second option is to treat the political knowledge quiz results as providing information about both the respondent and the questions asked: Here it is expected that just as there are differences in knowledge among citizens there will also be differences among the survey questions, where some items are difficult (very few get the right answer) and others are easy (practically all respondents select the correct answer).

Consequently, objective political knowledge data may be used to create scales that integrate information about the respondent (level of knowledge) and the question asked (level of difficulty). Currently, the statistical analysis of batteries of political knowledge quiz items tends, as Figure 2.1 shows, to adopt either a CTT or latent trait (i.e. IRT) perspective. The central reason for highlighting both approaches in Figure 2.1 is to underscore a key point made by Clyde H. Coombs (1964) and quoted in the epigraph: how one chooses to statistically analyse numerical evidence is based on assumptions about the data-generating process.

### *2.1.1 Objective political knowledge as a test score*

The most popular approach within political science to the measurement and modelling of political knowledge is to simply sum the number of correct answers in a quiz of three or more items. This perspective on measuring knowledge adheres broadly to the Classical Test Theory (CTT), which is also known as the True Score Theory, where the answers recorded in a political knowledge quiz (E) reflect a 'true score' (T) plus some 'error' (e), i.e.  $E = T + e$ . The error term does not distinguish between different sources of error linked with how respondents answer the questions, the question items, and the surveying process, etc., where the context of measurement is the same.<sup>10</sup> In addition, measuring political knowledge using mass surveys has additional sources of errors such as when respondents guess the answers rather than declaring that they do not know (e.g. Nadeau and Niemi 1995; Mondak 1999, 2001; Mondak and Davis 2001; Sturgis, Allum and Smith 2008).

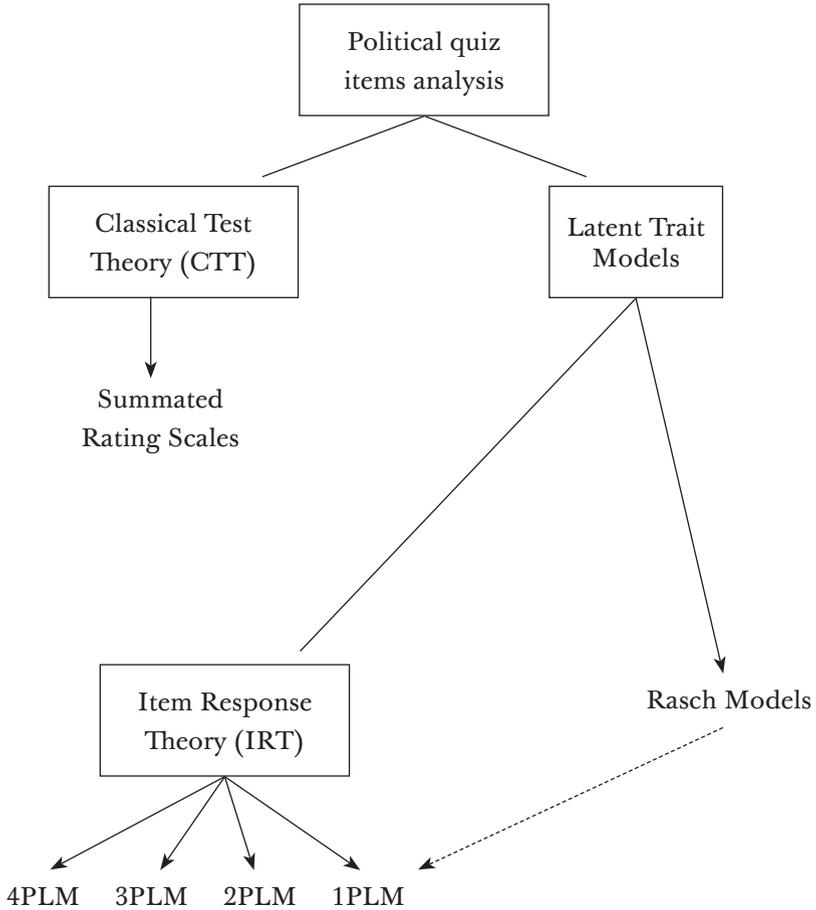
A key element in conceptualising objective political knowledge as a test score is the reliability of the knowledge scale, which is typically measured using Cronbach's alpha or its nominal data equivalent the Kuder-Richardson (KR-20) statistic. Here the correlation between 'parallel' knowledge questions provides an estimate of reliability because the variance of a true test score and a number of observed test scores is the same (Lord and Novick 1968). Rather than estimate the inter-correlation across a set of knowledge questions, it is common practice to estimate their internal consistency (Cronbach's alpha) as this provides a conservative (lower bound) estimate of the 'quality' of the knowledge items.

In practice, batteries of factual political knowledge questions with Cronbach's alphas of between 0.7 and 0.9 are seen to indicate a reasonably reliable scale. Cronbach alpha estimates above 0.9 are interpreted as indicating item redundancy, in which case removing some questions

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<sup>10</sup> Generalisability (or G) Theory developed by Cronbach et al. (1963, 1972) provides a statistical framework for estimating different sources of error, thereby providing estimates of the degree to which measurement error is due to the survey questions or the characteristics of the respondents. Unlike CTT, where the results are limited to the sample examined, G Theory aims to provide results that are applicable to populations.

**Figure 2.1: Framework for the statistical analysis of political knowledge scales**



Source: author

Note that 1PLM, 2PLM, 3PLM and 4PML refer to 1, 2, 3 or 4 part logistic models. The formulation of the Rasch model is often noted to be similar to a one-part logistic (1PL) IRT model.

may be warranted to yield a more parsimonious summated rating scale. There are no formal statistical criteria underpinning the use of Cronbach’s alpha showing that the questions used in a political knowledge scale are appropriate or form a single knowledge scale (i.e. the scale is unidimensional). Within this internal consistency approach the ‘quality’ of specific political knowledge questions is typically evaluated using

'item-total correlation' (or a point biserial correlation coefficient) statistics that are interpreted as providing evidence of the relative discriminating power of a question within a knowledge scale (Tavakol and Dennick 2011). The test score conception of political knowledge based on CTT has a number of important limitations.

First, a summated rating scale of objective political knowledge does not separate the attributes of the individual from the quiz questions, as both characteristics are encapsulated in the scale scores estimated. Second, the definition of reliability and its operationalisation using Cronbach's alpha and the KR-20 statistic is not definitive. Contrasting interpretations of the meaning and estimation of scale reliability coefficients exist. Third, a test score (CTT) approach to political knowledge assumes that measurement error is the same for all respondents. This assumption is questionable because the scores for citizens with varying levels of knowledge will not have the same level of precision. For example, at low and high levels of knowledge there will be floor and ceiling effects, respectively (Hambleton, Swaminathan and Rogers 1991: 4). Fourth, a test score view of political knowledge emphasises the overall quiz score rather than the performance of specific questions among a sample of respondents. As a result, the test score view prohibits making predictions about how well citizens might do in another knowledge quiz because it is sample-specific.

### *2.1.2 Objective political knowledge as a latent trait*

An alternative approach to modelling the answers to political knowledge 'quiz' questions is to use a latent trait measurement model. In psychometrics, which refers to the theory and methods of psychological testing, an influential approach known as Item Response Theory (IRT) models both the distribution of correct (coded as 1) and non-correct answers (coded as zeros), but also models the relative difficulty of each knowledge question when estimating an individual's latent knowledge score. IRT models of political knowledge are different from conventional summated rating scales because the latter (unrealistically) assume each item has the same level of difficulty, and all knowledge questions are simply equivalent measures of the same underlying trait or level of knowledge.

The IRT approach to measuring objective political knowledge focusses on the quiz questions, where the probability of a correct answer is modelled as a function of both the person and their level of knowledge plus the nature of the question asked (i.e. level of relative difficulty). Consequently, an IRT model may for example have three parameters reflecting key characteristics of the respondent and the knowledge quiz, these are (a) question difficulty, (b) question discrimination linking an individual's correct answers to a quiz and their underlying level of political knowledge, and (c) the (lower) rate at which the respondent guesses the answers correctly, a rate that is often set according to the number of

options offered, such as 33% for a question with three options where only one is correct. Like many other forms of statistical modelling, IRT models are designed to maximise the fit of the model to the observed data.

## **2.2 An Overview of Level(s) of Objective Political Knowledge, 2006–2013**

Prior to discussing in greater detail the Classical Test Theory (CTT) and Item Response Theory (IRT) analyses of political quiz data, it is important first to introduce the data that will be used for this task. Fortunately, in the series of post-election surveys for the Czech lower chamber elections fielded between 2006, 2010 and 2013 the same set of six factual (objective) political knowledge questions were asked. These three post-election surveys provide the largest number of explanatory variables available for exploring the determinants of political knowledge – i.e. why are some citizens more knowledgeable than others?

A brief examination of the overall response patterns shown in part (a) of Figure 2.2 reveals three key things. First, respondents found some of the six political quiz questions easier than others. Second, there was variation in the level of being misinformed indicated by differences in the number of incorrect answers. Third, the rate of unwillingness to give any answer by responding ‘don’t know’ also varied considerably across the six questions between 2006 and 2013. In general, the objective knowledge questions dealing with foreign affairs were more difficult than items dealing with local or national political facts.

The weighted correct answers presented in the ‘Wtd’ columns of part (a) of Figure 2.2 show the net level of correct answers (i.e. the difference between correct and incorrect rates) where account is taken of those who admit that they ‘don’t know’ or refused to give any answer. These data are displayed in graphical form in part (b) of Figure 2.2. Here one can immediately see that for almost all questions the net correct response rate was reasonably constant between 2006 and 2013, where estimates might be expected to vary by approximately  $\pm 3\%$  due to sampling error in the three post-election surveys.

Figure 2.2 also reveals that Czechs are most knowledgeable about facts that are in some way ‘closer’ to the citizen – for example, that there are elections to Regional Assemblies, and that the Czech Republic came into existence in 1993. In contrast, Czech citizens are much less knowledgeable about the electoral system for the lower chamber elections and about facts relating to the European Union (EU) and the United Nations (UN).

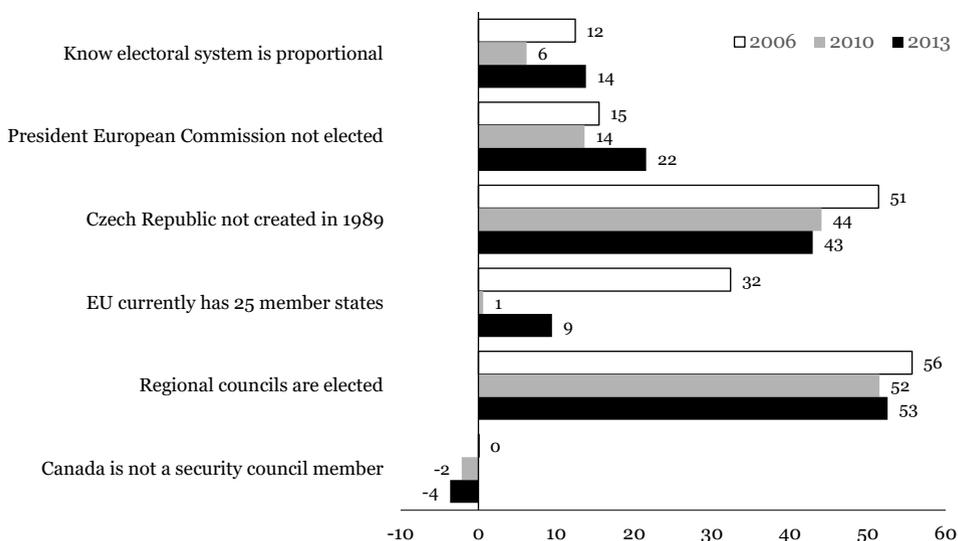
However, the question about the number of member states in the European Union (EU) is different from the other five items. This is because the correct answer changed between 2006 and 2013. The number of member states increased from 25 to 27 (2007) to 28 (2013) with the accession of Bulgaria, Romania and Croatia to the EU respectively. Consequently,

**Figure 2.2: Responses to political knowledge questions in recent post-election surveys in the Czech Republic, per cent**

(a) Profile of responses

Knowledge questions	2006				2010				2013			
	Yes	No	DK	Wtd	Yes	No	DK	Wtd	Yes	No	DK	Wtd
Know electoral system is proportional	38	14	48	+12	31	18	51	+6	41	17	43	+14
European Commission President is not elected	40	8	52	+15	39	11	51	+14	48	11	41	+22
Czech Republic created in 1989	74	17	10	+51	69	20	11	+44	69	21	10	+43
EU currently has 25 member states	57	6	36	+32	28	27	45	+1	38	22	41	+9
Know regional councils are elected	75	4	22	+56	72	5	23	+52	73	7	20	+53
Canada is not a Security Council member	21	21	58	0	16	22	62	-2	18	26	56	-4
Number of cases (n)	2002				1857				1653			

(b) Pattern in net correct answers



Source: Czech National Election Surveys, 2006, 2010 and 2013

Note estimates are unweighted. Correct answers are denoted by 'yes', incorrect by 'no', and don't know, no answer and refused are shown in the 'DK' column. The es-

timates in the 'Wtd' column refer to weighted net differences between correct minus incorrect answers that take into account the level of don't know responses. Positive 'Wtd' values indicate that the net balance is for correct answers and vice versa for negative 'Wtd' scores.

the halving of correct answers to this question between 2006 and 2010 (i.e. a fall from 57% to 28%) and the subsequent 'rebound' (to 38%) captures some of the dynamics of how political facts are learned by citizens. This brief overview of the battery of six political knowledge items fielded in three consecutive surveys highlights the importance of explicitly conceptualising the answers to political knowledge questions. Here there are three options.

- Option 1 is simply to compare the correct answers against all the others, i.e. incorrect and don't know, and treat political knowledge items as nominal variables where correct answers are coded as ones (1's) and all other responses as zeros.
- With option 2, a distinction may be made between correct, incorrect and don't know responses because these reflect qualitatively different answers. Here the political knowledge data could be viewed as having a nominal level of measurement reflecting three different choices: incorrect, don't know and correct. In other words, incorrect and don't know responses result from different survey response mechanisms yielding a polytomous variable.
- Option 3 builds on option 2 by making the additional assumption that responses to knowledge questions may be ordered; and hence can be represented as an ordinal scale because there is a progression from being misinformed (incorrect answer), uninformed (don't know and no responses), to being informed (indicated by a correct answer).

The overall response patterns evident in Figure 2.2 suggest that modelling objective political knowledge as a polytomous, or ordinal scale, may be more appropriate because this perspective does not assume that all incorrect (misinformed and uninformed) answers are the same. More concretely there is an important difference between claiming incorrectly to know a political fact and freely admitting that one does not know enough to give a response. In the absence of more detailed information about the nature of how respondents formulate answers to political knowledge questions, it is prudent to test a variety of models, starting with the most parsimonious nominal measurement-level model of knowledge, and then progressing to polytomous- and interval-level models where comparisons are made using appropriate model fit statistics.

### 2.3 Classical Test Theory (CTT)

It was highlighted in previous chapters that there is no single methodology for measuring objective political knowledge in nationally representative sample surveys.<sup>11</sup> The two most popular methods are: (a) estimating the level of ‘civic knowledge’, that is, familiarity with key political leaders, institutions and political rules such as how elections are run; and (b) measuring the level of ‘policy knowledge’, where a respondent illustrates their understanding of how parties differ from one another in terms of issue placements.

Empirical investigations of political representation, and more specifically the Responsible Party Model (discussed in the introductory chapter), in terms of cognitive constraint and ideological reasoning have been primarily based on assessing levels of policy knowledge. At its simplest, the Responsible Party Model contends that a central feature of party competition is differences in policy platforms across parties. Voters select the party that most closely matches their own policy preferences where it is assumed that if parties enter government they will try to implement their electoral policy platform, but will govern in a responsible manner (Ranney 1954; Mayhew 1974; Jones and McDermott 2004). Consequently, it is possible to construct a policy-based political knowledge measure based on where respondents situate themselves and parties on an 11-point left-right scale.<sup>12</sup> Secondly, levels of political knowledge tend not to differ by large amounts, depending on how such knowledge is measured (Neuman 1986; Luskin 1987, 1990; Zaller 1992; Delli Carpini and Keeter 1996: 147–151).

Within this chapter there will only be a consideration of the objective or factual facet of political knowledge. However, more will be said about the link between policy position and level of factual knowledge later in Chapters 11 and 13 when ‘correct voting’ and political expertise are examined. Before presenting some results of a Classical Test Theory (CTT) approach to analysing the battery of six political quiz items fielded in three post-election surveys, it is necessary first to briefly consider the difficulties of measuring factual ‘political knowledge’ in academic surveys such as the Czech National Election Studies of 2006, 2010 and 2013 and their international equivalent the Comparative Study of Electoral Systems (CSES) survey datasets.

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11 Within the United States, use of interviewers’ subjective assessments of respondents’ level of political knowledge has been popular, either on its own (Bartels 1996), or in combination with scales built from factual items (Zaller 1992: 333–334).

12 These questions are a standard feature of CSES questionnaires and have been implemented in Czech post-election surveys since 2006. Specifically, respondents were asked to place the main political parties and then themselves on a 0–10 point left-right scale.

### *2.3.1 Problems in measuring objective political knowledge*

It was noted in a section above that the measurement of factual political knowledge in mass surveys is likely to be influenced by non-response rates. This occurs because there is an over-representation of informed citizens who volunteer to be interviewed. This selection bias has the effect of reducing the observed impact of political knowledge on such things as reported voter turnout, party choice and ideological beliefs. Even if all potential respondents agreed to be interviewed there is another potential methodological problem. The question format used to measure political knowledge questions may have an important impact on the responses recorded (Schuman and Presser 1996; Tourangeau, Rips and Rasinski 2000).

More specifically, the fact that many objective political knowledge questions have either a simple true/false or multiple-choice format leads to situations where uninformed citizens have a non-trivial probability of successfully guessing the correct answer despite their lack of knowledge (Mondak 1999). For these reasons, the situation with regard to level of political knowledge may be considerably worse than the mass survey data results suggest. This is because 'know-nothings' often refuse to participate in surveys. This leads to sample bias due to (1) having data primarily from a knowledgeable sample and (2) uninformed respondents who guess the correct answers.

One solution to the guessing problem is to use duration of formal education as an indicator of political knowledge. Unfortunately, previous research suggests that absolute level of education is not always a good predictor of political knowledge (Galston 2001: 226). Moreover, the relationship between political knowledge and education appears to be mediated by other factors such as an individual's motivation to become informed about politics. Evidence for such mediated effects is consistent with the fact that while the overall level of citizen access to higher levels of education has increased dramatically in many countries over the last half century, the level of measured political knowledge has remained constant (Nie et al. 1996: 190–192).

One response to this critique of the validity and reliability of measuring objective or factual knowledge is to argue that other concepts, such as a citizen's 'sense of political efficacy' and 'trust in key institutions in society', are more difficult to measure. This is because the concepts of 'efficacy' and 'trust' are not familiar themes for most citizens. Consequently, survey measures of efficacy and trust are more susceptible to bias arising from the social, institutional and media context within which a respondent lives. In contrast, factual knowledge questions with definite correct answers simply reflect a person's ability to recall basic political information (Grönlund and Milner 2006: 403).

Although mass surveys have limitations, they nonetheless remain one of the most effective means of directly assessing citizen competence to make sensible choices (note, Neuman 1986; Converse 2000: 332–333;

Zaller 1992: 333ff). If quizzes are not included in national surveys, citizens' political knowledge would have to be assessed using indirect measures such as (a) interviewers' assessments of respondents' level of knowledge, (b) degree of opinionation, or (c) level of education. While these attributes are undoubtedly related to level of political knowledge, they are nonetheless of limited use in evaluating how much citizens actually know about the political world in which they live. For this reason, most political scientists believe that the answers to batteries of factual questions give a reasonable, although imperfect, measure of citizen competence.

### *2.3.2 What are the dimensions of objective political knowledge?*

In the last section there was an exploration of how to measure objective political knowledge and the potential response bias surrounding the non-committal ('don't know' or 'no answer') response category. In the rest of this chapter the simple 'correct vs the rest' political knowledge scale will be employed. This is not to suggest that the methodological problems with 'don't know' survey responses are unimportant. Rather the perspective adopted here is that non-committal responses, whatever the underlying motivation, represent realistic strategies used by citizens in daily social interactions (and survey interviews). Notwithstanding the social importance of giving non-committal answers during everyday conversations, 'expressed knowledge' is likely to be more important for understanding political attitudes and behaviour than true levels of knowledge (Frazer and Macdonald 2003).

One of the key reasons for asking a battery of factual political knowledge questions is to construct a single scale. A person's level of knowledge cannot be reliably measured with a single question, so knowledge is considered to be a latent trait. The reliability of the knowledge scale, composed of many different questions, is evaluated in terms of the degree to which the answering is patterned, e.g. all answers are correct. This link across all knowledge questions, or item inter-correlation, is often assessed with a statistic called Cronbach's alpha, which ranges between zero [0], where there is little or no link between the answers to the questions, and one [1], where there is evidence of a strong pattern in the answering.<sup>13</sup>

If a knowledge scale has a Cronbach alpha of 0.7 or greater, this is often interpreted as evidence that the factual questions really do reflect a person's underlying level of objective political knowledge. After completing the initial 'scale checking' or diagnostic work, it is possible to create an 'objective political knowledge scale'. One of the simplest kinds of scale is the summated rating variety. Here the correct answers

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13 With dichotomous data it is more appropriate to use a special case of Cronbach's alpha, i.e. the Kuder-Richardson Formula 20 (KR-20) statistic. However, a superior approach to the estimation of scale reliability is the Tarkkonen measure of scale reliability devised a generation ago, although much less widely used than Cronbach's alpha because of its limited availability within statistical software (see Vehkalahti 2000).

in a political knowledge quiz are added together in a similar manner to a school test score. Testing the reliability of a summated rating scale requires assuming that the scale is unidimensional. Consequently, it is necessary first to test dimensionality using well-known procedures such as Principal Components Analysis (PCA). However, the establishment of dimensionality using PCA depends critically on specific assumptions about the distributions of the data being met.

Objective political knowledge data often has a nominal level (0/1) of measurement, where respondents either gave the correct answer (which is coded as 1) or they did not (and all the non-correct answers are coded as 0). In this situation, the use of Principal Components Analysis (PCA) is problematic. This is because the political knowledge data do not have a continuous distribution, like age or income, and are likely to be skewed due to the responses to very easy or difficult questions. Moreover, using PCA to analyse nominal level data is well known since the 1960s to often result in an incorrect estimation of the number of latent dimensions in the data (Brazill and Grofman 2002).

For this and other reasons, Classical Test Theory (CTT) methods based on reliability statistics such as Cronbach's alpha and dimensional analysis based on PCA are less useful with political knowledge data than techniques developed using a set of statistical methods based on Item Response Theory (IRT). A key advantage of IRT is that it facilitates estimating (a) an individual's level of knowledge and (b) the relatively difficulty of the factual knowledge questions. CTT methods do not provide such valuable information.

## 2.4 Item Response Theory (IRT)

One of the most important assumptions in any analysis of political knowledge is to determine whether the battery of quiz items measures a single underlying trait or dimension. Determining the dimensionality of a set of objective political knowledge questions represents the first step in any empirical analysis and requires making some important decisions about how to code the answers to the quiz items. The simplest, and most common, approach is to code correct answers with the number one (1) and all the non-correct responses as zero (0). As noted above, an alternative option is to retain as much of the original pattern of response information as possible by coding the knowledge data in a multiple response, or polytomous, manner. Here we may posit the following theory as to what the latent dimension might look like.

[Misinformed] → [Uninformed] → [Informed]

Answers may be coded as reflecting evidence of being 'informed' (a correct answer coded as 1), 'uninformed' (replying 'don't know' or giving no answer at all and coded as 2), or 'misinformed' (providing an incorrect

reply which is denoted as 3). Here the objective political knowledge latent trait is assumed to range from being ‘misinformed’ to ‘uninformed’ to ‘informed’. Within this unidimensional perspective, those respondents who voluntarily admit that they ‘don’t know’ are more knowledgeable than those who have false knowledge because the former realise their ignorance. This line of reasoning fits with the Socratic aphorism: wise is the person who realises that they do not know.

Within this chapter use will be made of a set of six standard factual political knowledge questions asked in three post-election surveys fielded in the Czech Republic in 2006, 2010 and 2013. If the answers to all six factual questions about domestic Czech and international politics measure the same single underlying trait, i.e. political knowledge, then there should be a reasonable level of inter-correlation among all of the knowledge questions. In this section, the initial analyses will present the results of simple correlations and later more complex statistical modelling results will be shown.

#### *2.4.1. Inter-correlation among knowledge items*

Estimation of a summated rating scale where all six knowledge items are simply coded dichotomously as correct (1) or non-correct (0) yields a moderate level of inter-correlation (Cronbach’s  $\alpha=.58$ ). A more detailed coding of the answers to the knowledge questions would indicate if a person is (a) informed where correct answers are coded as 1, (b) uninformed, where ‘don’t know’ and no answers are coded as a 2, or (c) misinformed, where incorrect answers are coded as a 3. The association between the answers to the six knowledge questions using this latter polytomous coding is considerably lower (Cronbach’s  $\alpha=.39$ ).

These scale reliability (Cronbach’s  $\alpha$ ) results fit with correlational analyses of the objective political knowledge data when they are coded dichotomously as being correct or not. The top part of Table 2.1 shows the results of using the Pearson Product Moment Correlation statistic (which is known as the Phi ( $\phi$ ) coefficient when applied to dichotomous data). Here we can see modest levels of association. The bottom part of Table 2.1 reports tetrachoric correlations, which are often used with nominal (0/1) data, and these indicate much higher levels of association among the answers to the knowledge questions. The key point here is that how these survey responses are modelled has an important impact on evaluations of the dimensionality of the data. Here higher tetrachoric correlations suggest a unidimensional (single-knowledge) solution is appropriate.

#### *2.4.2 Exploratory Factor Analysis of objective political knowledge items*

A number of Exploratory Factor Analysis (EFA) techniques may be used to examine the dimensionality of the six factual political knowledge items. One option is to employ a ‘parallel analysis’ approach, where a

**Table 2.1: Correlations matrices for political knowledge scales, 2006, 2010 and 2013**

(a) Pearson Product Moment Correlation coefficients

Political knowledge quiz items	V1	V2	V3	V4	V5	V6
V1: Electoral system is proportional	1.00					
V2: President EU Commission not elected	.29	1.00				
V3: Czech Republic not created in 1989	.19	.21	1.00			
V4: EU has 25 member states	.22	.18	.22	1.00		
V5: Regional Councils are elected	.20	.20	.12	.14	1.00	
V6: Canada is not a member of UN Security Council	.20	.19	.13	.23	.09	1.00

(b) Tetrachoric correlation coefficients

Political knowledge quiz items	V1	V2	V3	V4	V5	V6
V1: Electoral system is proportional	1.00					
V2: President EU Commission not elected	.45	1.00				
V3: Czech Republic not created in 1989	.34	.36	1.00			
V4: EU has 25 member states	.35	.29	.37	1.00		
V5: Regional Councils are elected	.35	.34	.21	.24	1.00	
V6: Canada is not a member of UN Security Council	.36	.33	.26	.40	.19	1.00

Source: Czech National Election Surveys, 2006, 2010 and 2013, n=5512

Note that use of the tetrachoric correlation estimator involves assuming that the distribution of each pair of quiz items is bivariate normal where there is a threshold model for the knowledge questions (manifest indicators) where  $V_i=1$  when  $X_i>0$ . Although the means and variances of the latent trait, i.e. knowledge, are not identified the correlation between the latent traits can be estimated from the joint distributions of the pair of quiz items: this is the tetrachoric correlation coefficient.

comparison between simulated and actual data are used to determine whether the number of factors extracted may be due to chance. Here use was made of the UnidimTest function in the ltm library of R (Statistical Computing Platform, v3.0.3) to examine (with a simple Rasch model of the political knowledge items) a modified parallel analysis with nominal data. The results reveal a strong first factor (Eigenvalue  $>2.00$ ) with three weaker factors (Eigenvalues  $<1$ , e.g. factor 2=.38).

It is more appropriate for statistical reasons to use a polychoric correlation estimator with dichotomous or polytomous data. Consequently,

an additional ‘parallel analysis’ was estimated using the ‘fa.parallel.poly’ function in the Psych and Parallel packages in the R statistical programming language. The results suggest a three factor solution for Exploratory Factor Analysis (EFA) and a single dimension for a Principal Components Analysis (PCA). Therefore, the EFA and PCA analyses provide inconsistent estimates of the dimensionality of the answers to the political knowledge questions examined.

Another method of testing the dimensionality of the political quiz items is to estimate two latent trait models where one- and two-dimension solutions are specified in advance. Here Item Response Theory (IRT) models with both dichotomous and polytomous data may be estimated with maximum likelihood using the ltm package that is also available in the R statistical computing environment. Thereafter, a likelihood ratio test may be used to test for significant differences between the model fit (AIC and BIC) of both models. The results (LR=77.99,  $df(6)$ ,  $p \leq .001$ ) again indicate the presence of more than one latent factor.

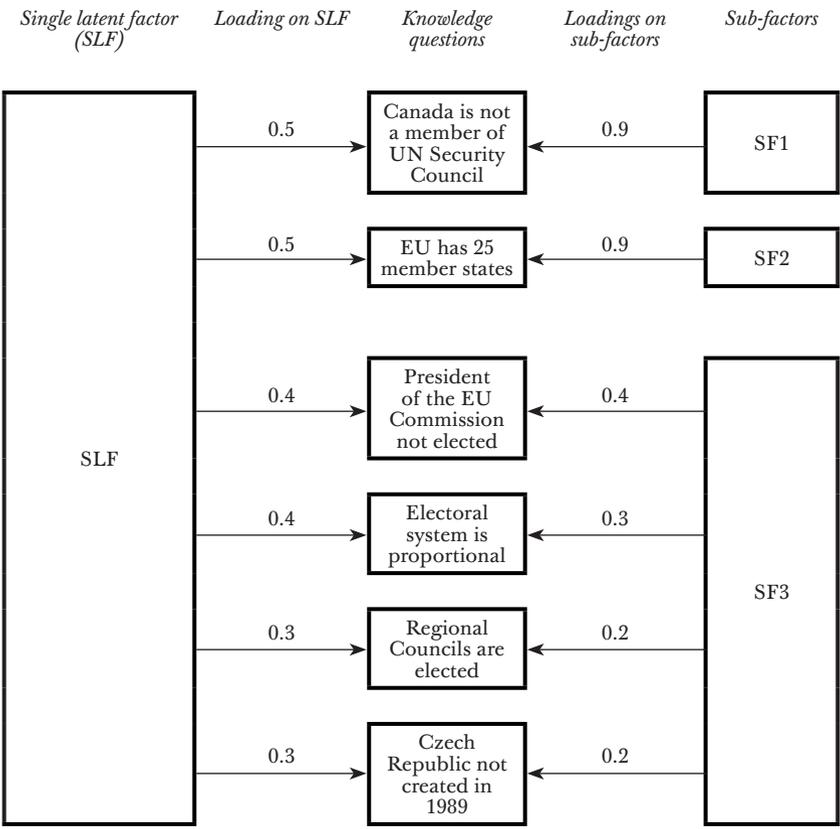
And yet another approach uses a goodness of fit test to estimate the optimal number of factors to extract. Using the factor pattern matrix a ‘Very Simple Structure’ (VSS) is estimated, where only the largest loadings for each item are applied to the original correlation matrix (Revelle and Rocklin 1979). Without getting into the technicalities of the VSS estimation procedure, the results of this dimensionality testing analysis indicates that there are three factors in the 2006, 2010 and 2013 post-election political knowledge data.

Finally, the internal consistency of the political knowledge scale may be examined using McDonald’s omega ( $\omega_h$ ) statistic where account is taken of the potentially hierarchical structure of the quiz items. The six political knowledge questions are subjected to a Hierarchical Exploratory Factor Analysis (HEFA) with oblique rotation. Thereafter, a Schmid Leiman transformation is made and the omega statistic is calculated. The estimates presented graphically in Figure 2.3 are the results of a Structural Equation Model (SEM). Here the omega statistic estimates were used to estimate a Confirmatory Factor Analysis (CFA).

The results shown in Figure 2.3 reveal that ‘V4: the EU has 25 member states’ and ‘V6: Canada is not a permanent member of the UN Security Council’ form separate dimensions to the remaining four items which examined Czech citizens’ knowledge of domestic politics. Overall, modelling all six factual political knowledge questions in the 2006, 2010 and 2013 post-election surveys as a single latent trait dimension is a reasonable solution, notwithstanding (some) clustering of the data around the international politics (EU and UN) items.

A similar process of modelling the six objective political knowledge variables using polytomous (misinformed, uninformed and informed) coding indicated very little structure in Czech respondents’ answers to political knowledge questions in the 2006, 2010 and 2013 post-election surveys. This result is important because it shows that a more detailed

**Figure 2.3: Bifactor analysis of political knowledge items fielded in Czech post-election surveys, 2006–2013**



Source: Czech National Election Surveys, 2006, 2010 and 2013, n=5512  
 Note the bifactor model in this figures assumes that all six political knowledge questions are indicators of an underlying level of political knowledge represented by a single latent factor (SLF). However, the knowledge questions are also expected to 'cluster' on the basis of their content, e.g. national versus international politics, and this is what the sub-factor loadings measure. The sub-factors (SF1-3) are not different factors of knowledge, but interrelated facets that arise because of variation in the content of the knowledge questions (see Reise et al. 2010).

theory of how to classify answers to political knowledge questions is not warranted. A simpler being informed or uninformed (which includes being misinformed and uninformed) conception of the response process has a better fit with the observed data. Consequently, within this book the simpler dichotomous coding of objective political knowledge data will be used. Chapter 4 will return to the topic of how respondents answer factual political knowledge questions, and how response strategies such as guessing are influenced by individual- and country-level characteristics.

### *2.4.3 IRT models of objective political knowledge questions*

Earlier, in Figure 2.1, it was highlighted that the latent dimensional approach of Item Response Theory (IRT) is composed of a family of models that differ mainly in the number of parameters used to model respondents' answers to quiz items and the underlying latent trait, e.g. objective political knowledge measured with a set of factual questions. The usefulness of an IRT model in estimating each respondent's score on an underlying knowledge dimension depends on how well the model estimated fits the observed data. With dichotomous coding of quiz items into correct and non-correct responses, IRT models are typically specified as logistic regression models with one, two or three parameters. With the three-parameter logistic (3PL) IRT model the probability that a respondent with knowledge ( $\theta$ ) will answer a specific quiz item  $i$  correctly is given by the following equation.

$$P_i(\theta) = c_i + \frac{1 - c_i}{1 + e^{-Da_i(\theta - b_i)}} \quad \text{Eq. 1}$$

Here the difficulty of the knowledge question parameter is denoted by  $b_i$  where larger values of this coefficient indicate that any respondent is less likely to answer this quiz item correctly. Variation in the factual knowledge questions to distinguish or discriminate between respondents with different levels of knowledge is shown in the item discrimination parameter ( $a_i$ ). Item discrimination is important because it provides a measure of how well specific questions are able to classify respondents with low and high levels of knowledge.

Finally, there is the guessing parameter  $c_i$ , which indicates the likelihood that a respondent will give a correct answer to a question that is too difficult for them. This model parameter captures respondents' propensity to provide (correct) answers to questions where they should admit that they 'don't know' the answer. Many respondents treat survey interviews as tests of intelligence, where they are motivated by social desirability effects in the presence of an interviewer to provide answers to

all questions regardless of whether they have the requisite information. The  $-D$  parameter in Equation 1 is a scaling factor whose value is typically set to 1.7 so as to be comparable with normal ogive and two-parameter logistic models (see the next subsection for details). The exponential constant  $e$  has a value of 2.718 and is a defining mathematical component of the logistic function, giving it the desirable nonlinear characteristic s-shaped curve.

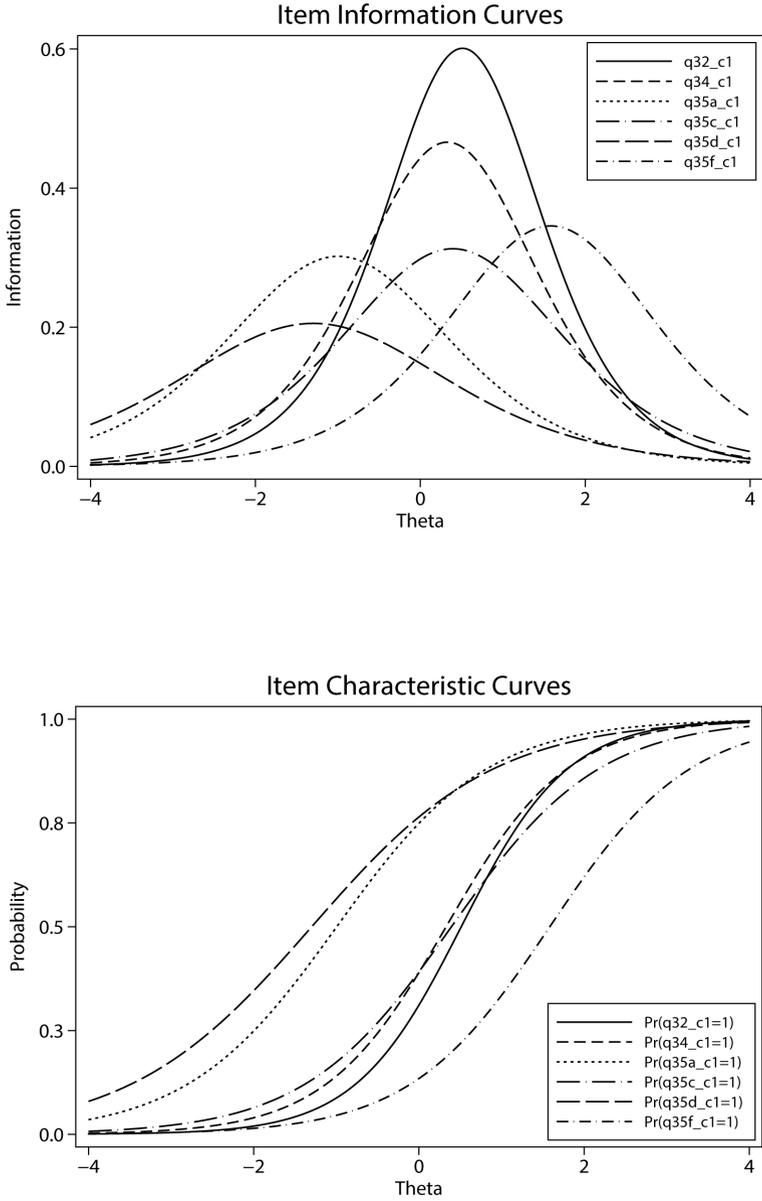
Item Information Curves (IIC), Item Characteristic Curves (ICC), and other summary statistics provide important information about (a) the knowledge of respondents and (b) how well particular political knowledge questions were able to distinguish between respondents with the same underlying level of knowledge. The IIC part of Figure 2.4 reveals that not all items provide the same level of information about respondents across the ability or knowledge dimension. Here we see that ‘Canada is not a permanent member of the UN Security Council’ (Q.35f\_c1) provides the most information about high knowledge respondents versus all others. In contrast, most people were able to correctly answer that members of regional councils are elected (Q.35d\_c1), and this provides information about people with low levels of knowledge. Of all the items, knowing whether the EU had 25 member states in 2006, 2010 and 2013 provided the most information about respondents with average ability or knowledge ( $\theta=0$ ).

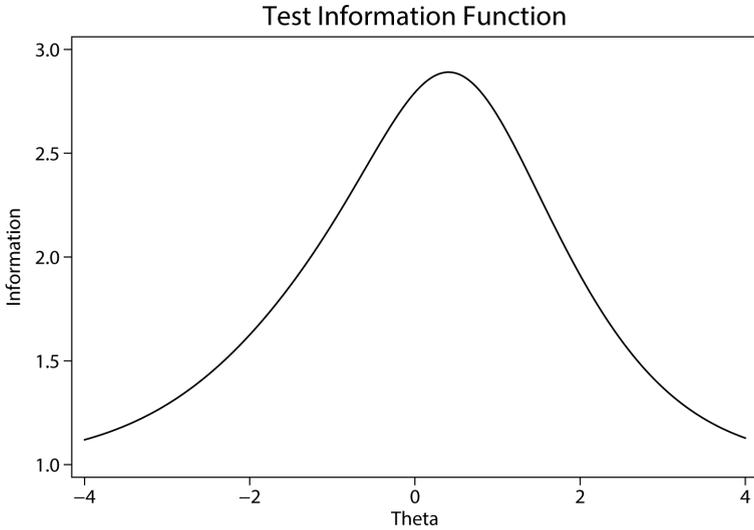
Overall, the IIC pattern suggests that the battery of six quiz items fielded in the Czech post-election surveys of 2006, 2010 and 2013 provide information across the entire range of knowledge abilities of respondents. This suggests that this set of objective political knowledge questions provides a reasonable evaluation of Czech citizens’ ability to correctly answer factual questions about politics.

In the ICC part of Figure 2.4 one can see that the discriminatory power of all six quiz items is similar because the slopes ( $a_i$  parameters for all items) of all the curves are broadly the same. The difference in the location of the ICC for each item across the ability (or knowledge) scale reflects the difficulty of the items. On the bottom left of the ICC figure one can see that there is a non-zero probability of a correct answer for some items (i.e. ‘the EU has 25 member states’ and ‘the Czech Republic came into existence in 1989’) at the lowest level of knowledge: this reflects the effect of guessing the correct answers.

Finally, the Test Information Function part of Figure 2.4 shows that the battery of factual political knowledge items deals best with respondents of average ability ( $\theta=0$ ) or level of knowledge. Having described the main features of a three-parameter logistic (3PL) IRT model of political knowledge, the next step is to examine different model specifications and their relative fit to the observed data.

Figure 2.4: Profile of political knowledge items using an IRT model





Source: Czech National Election Surveys, 2006, 2010 and 2013, n=5512

Note these IRT models estimates are based on a 2PL specification. Legend: q32\_c1 – Proportional electoral system, q34\_c1 – President EU Commission not elected, q35a\_c1 – Czech Republic was not created in 1989, q35c\_c1 – EU does not have 25 member states, q35d\_c1 – Regional councils are elected, and q35f\_c1 – Canada not permanent member of UN Security Council. See the appendix of Chapter 3 for the question wording.

#### *2.4.4 A comparison of IRT model specifications*

It is important to reiterate that Item Response Theory (IRT) differs from Classical Test Theory (CTT) because IRT examines respondent answers at the level of particular questions rather than overall test scores. One of the advantages of focussing on specific questions is that it provides a flexible framework for developing tests and evaluating the performance of different questions and overall test scores. Here the answers to the six political knowledge questions in the Czech post-election surveys of 2006, 2010 and 2013 have been scored as correct (1) or non-correct (0, zero). Here non-correct responses include those who were misinformed and gave an incorrect answer and the uninformed who replied ‘don’t know’ or refused to give any answer.

It is important to stress that IRT models make three key assumptions. First, the assumption of unidimensionality contends that the battery of six factual political knowledge questions only measure a single latent trait ( $\theta$ ), objective political knowledge, and not something else such as differences in individual propensity to answer questions during a survey interview. This assumption is examined in Chapter 4. Second,

IRT models assume that there is no association between respondents' answers to a pair of questions in the battery of test items. More technically, there is 'local independence', which means that the association between answers is completely captured by the latent trait ( $\theta$ ): there are no other correlations between pairs of questions. Third, the relationship between the latent trait ( $\theta$ ) and the battery of items may be modelled in different ways, depending on the assumptions one makes about how respondents' answer quiz questions during a survey interview.

The Normal Ogive Model was one of the first IRT models developed. Here the Item Classification Curve (ICC) is estimated from the cumulative density function of a normal distribution, which is often difficult to estimate for technical reasons (Ferguson 1942; Lord and Novick 1968; see also Goldstein and Wood 1989). In contrast, the One Parameter Logistic Model (1PL or Rasch model) uses the logistic function to derive the ICC and has the important advantage that it is less difficult to compute model parameters than the Normal Ogive Model (Rasch 1960). Currently, the scaling factor D (introduced earlier in Eq.1) is often set to 1.0 because it is not important to make comparisons with the Normal Ogive Model, as was the case in presenting IRT model results in the past. Nonetheless, it is important to remember that the scaling factor D should not be ignored because its value determines the IRT model parameters estimated. It is still common practice in two- and three-part logistic models to use the setting  $D=1.7$ .<sup>14</sup>

The two-parameter logistic (2PL) model has an additional parameter for item discrimination ( $a_i$ ), where it is not assumed that all factual knowledge questions are able to distinguish between respondents with the same knowledge equally well. Consequently, the item discrimination ( $a_i$ ) coefficient is no longer fixed at unity ( $a_i=1$ ) but is a free parameter that is estimated.

With the three-parameter logistic (3PL) model the number of coefficients to be estimated is incremented once more to take account of low knowledge respondents correctly answering difficult questions by chance through guessing ( $c_i$ ). Technically, 3PL models are allowed to have low levels of the latent trait ( $\theta$ ) that are negative or non-zero when the Item Classification Curve (ICC) is estimated. The 'guessing parameter' ( $c_i$ ) is more correctly called the 'pseudo-chance-level parameter'. The 3PL model is the most general form of the constrained, or nested, 2PL ( $c_i=0$ ) and 1PL ( $a_i=1, c_i=0$ ) models (Hambleton, Swaminathan and Rogers 1991).

Table 2.2 reports the results of a variety of specifications of IRT models of the same battery of objective political knowledge questions asked in the Czech post-election surveys of 2006, 2010 and 2013. These models refer, as noted earlier, to a dichotomous coding of these factual political

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14 Differences in the value of the scaling factor D are described with specific terms, e.g. when  $D=1.0$  the model parameters are said to have the 'logistic metric' and when  $D=1.7$  the 'normal metric'.

**Table 2.2: IRT models of political knowledge in the Czech Republic, 2006–2013**

<i>Model</i>	<i>Variables</i>	<i>b</i>	<i>a</i>	<i>c</i>	<i>LL</i>	<i>AIC</i>	<i>BIC</i>
<i>IPL</i>	Electoral system is proportional	.59	1.19	0	-19192	38398	38444
<i>Rasch</i>	President EU Commission not elected	.36	1.19	0			
	Czech Republic not created in 1989	-.95	1.19	0			
	EU has 25 member states	.38	1.19	0			
	Regional Councils are elected	-1.08	1.19	0			
	Canada not permanent member of UN Security Council	1.57	1.19	0			
<i>IPL</i>	Electoral system is proportional	.67	1.00	0	-19225	38462	38502
<i>Rasch, D=1</i>	President EU Commission not elected	.40	1.00	0			
	Czech Republic not created in 1989	-1.07	1.00	0			
	EU has 25 member states	.43	1.00	0			
	Regional Councils are elected	-1.22	1.00	0			
	Canada not permanent member of UN Security Council	1.79	1.00	0			
<i>IPL</i>	Electoral system is proportional	.46	1.70	0	-19362	38735	38775
<i>Normal Ogive</i>	President EU Commission not elected	.28	1.70	0			
	Czech Republic not created in 1989	-.73	1.70	0			
	EU has 25 member states	.29	1.70	0			
	Regional Councils are elected	-.83	1.70	0			

<i>Model</i>	<i>Variables</i>	<i>b</i>	<i>a</i>	<i>c</i>	<i>LL</i>	<i>AIC</i>	<i>BIC</i>
	Canada not permanent member of UN Security Council	1.22	1.70	0			
<i>2PL</i>	Electoral system is proportional	.51	1.55	0	-19163	38350	38430
	President EU Commission not elected	.33	1.37	0			
	Czech Republic not created in 1989	-1.00	1.10	0			
	EU has 25 member states	.39	1.12	0			
	Regional Councils are elected	-1.30	.91	0			
	Canada not permanent member of UN Security Council	1.58	1.18	0			
<i>3PL</i>	Electoral system is proportional	.51	1.55	<.10	-19163	38362	38481
	President EU Commission not elected	.33	1.37	<.10			
	Czech Republic not created in 1989	-1.00	1.10	<.10			
	EU has 25 member states	.39	1.12	<.10			
	Regional Councils are elected	-1.30	.91	<.10			
	Canada not permanent member of UN Security Council	1.58	1.18	<.10			

Source: Czech National Election Surveys, 2006, 2010 and 2013, n=5512

Note that 'a' is the item discrimination parameter, 'b' is item difficulty parameter and 'c' is the guessing parameter. LL denotes the Log-likelihood and AIC and BIC are the Akaike and Bayesian Information Criteria statistics. 1PL, 2PL and 3PL refer to one-, two- or three-part logistic (IRT) models where the number of parameters (i.e. item discrimination and difficulty and guessing) estimated increases to create more realistic models of the response process.

knowledge data and Table 2.2 reports, from top to bottom, the results of progressively more realistic models with larger numbers of free parameters. The set of overall model fit statistics on the right of Table 2.2 reveal that the model that explains the most variance is the two-part logistic (2PL) model where item discrimination ( $a_i$ ) and question difficulty ( $b_i$ ) are estimated, and it is assumed there is no guessing ( $c_i=0$ ).

#### *2.4.5 Guessing the answers to objective political knowledge questions*

In the three 1PL models estimated the substantive effects are always the same despite the fact that the item discrimination parameters were set to different values (1.19, 1.00, or 1.70). The difficulty parameter ( $b_i$ ) estimates reveal that there are two easy items (with negative  $b_i$  values indicating that those with less than the mean level of knowledge got them correct) and three difficult questions (with positive  $b_i$  coefficients showing that only those with greater than average knowledge got them correct). The most difficult questions mainly refer to knowledge of international politics. Estimating the ‘pseudo-chance-level parameter’ ( $c_i$ ) results in close to zero parameter values and does not improve total model fit. This particular result (i.e. low levels of guessing) may be a product of the specific question wording used to introduce the battery of six factual political knowledge questions in the Czech National Election Studies of 2006, 2010 and 2013:

I would like to ask you some questions about politics. If you aren't sure about the right answer to the following questions, please go ahead and choose the 'don't know, I am not sure' option, as this answer is more valuable than guessing.

These data form part of the Comparative Study of Electoral Systems (CSES) cross-national dataset, where the particular instruction encouraging respondents not to guess answers if they do not know the answer is *not* used. An overview of CSES political knowledge data (1996-2011) reveals that there is a higher rate of responding ‘don't know’ in the Czech Republic than elsewhere (i.e. 9% in contrast to a mean of 6% elsewhere). Within the survey-based study of political knowledge there has been debate about how to deal with some respondents’ propensity to give ‘don't know’ answers. This results in guessing and higher levels of knowledge because some of the guesses are correct. This means that differences in ‘response style’ can influence the level of political knowledge measured.

Because of these concerns, some researchers have explicitly encouraged respondents to guess the answers to political questions rather than accept ‘don't know’ responses (Mondak 1999, 2001; Mondak and Anderson 2004; Mondak and Davis 2001). The thinking here is that if everyone guesses then all respondents’ knowledge scores are inflated to the same extent. Other scholars disagree with this logic. Luskin and Bullock (2011)

encouraged their survey respondents to honestly report ‘don’t know’ responses if they were not sure of the correct answer to the question asked.<sup>15</sup> Here the argument is that being uninformed is a legitimate answer and should be recorded. A key conclusion from this latter experimental survey-research study is that ‘discouraging DKs [don’t knows] does little to affect our picture of how much the public knows about politics’, and they advise ‘... the moral for designing closed-ended items is clear. DKs should not be discouraged’ (Luskin and Bullock 2011: 547, 554).

The IRT modelling results presented in Table 2.2 are consistent with Luskin and Bullock’s (2011) conclusion that respondent guessing does not appear to be a central feature of how interviewees answer objective political knowledge items. There may be some changes in the distribution of responses, but it seems that ‘don’t know’ answers are not qualitatively different from incorrect answers. When the Czech National Election Studies (2006–2013) political knowledge data are modelled as polytomous data, as reported earlier in Figure 2.3, there appears to be much less structure in these data when examined using hierarchical and bifactor analyses.

In short, a dichotomous coding, where there are correct answers (1) versus all non-correct answers (0), appears to be the most useful way to classify the political knowledge data. The two-part logistic (2PL) IRT model yields the highest levels of overall model fit. This raises the question: How did each of the six factual questions perform in terms of (a) relative difficulty and (b) discriminating between respondents of equal knowledge? In fact, this set of political quiz questions were asked on a total of seven occasions between May 2006 and November 2013. In two of these surveys (November 2006 and November 2012) the knowledge questions were fielded well away from general election campaigns.

Taking advantage of this opportunity, the goal of the next subsection is to see if different election contexts, i.e. information-rich election campaigns versus the quietness of inter-electoral periods, have an impact on the difficulty and discriminatory power of each of the six standard questions. If objective political knowledge is truly an individual-level attribute then changes in the political context over a relatively short period of less than a decade should not have a large impact on the two-part logistic Item Response Theory (2PL IRT) model estimates.

#### *2.4.6 A comparison of IRT 2PL model difficulty and discrimination, 2006–2013*

A standard set of IRT 2PL models were estimated for all seven surveys with a common set of six objective political knowledge items. As the IRT model parameter estimates are not survey-specific, it is possible to

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<sup>15</sup> There is an alternative strategy, where a variety of scoring methods may be used to deal with ‘don’t know’ and incorrect responses. For the sake of brevity this topic is not addressed within this chapter (see Mondak and Davis 2001; Krosnick et al. 2008; Luskin and Bullock 2004).

make comparisons of specific item difficulty ( $b_i$ ) and discrimination ( $a_i$ ) parameters across all surveys. Looking first at item difficulty in the cross-time results shown in Figure 2.5, it is clear that there are three main types of knowledge questions: easy, moderate and difficult. Figure 2.5 shows that two questions are easy, i.e. (Q.35a) ‘the Czech Republic did not come into existence in 1989’ and (Q.35d) ‘members of regional councils are elected’. The difficulty of these items remained largely the same across all the years examined.

The two moderately difficult items, i.e. (Q.34) ‘the EU Commission President is not elected’ and (Q.35c) ‘the EU has (not) 25 member states’, show higher levels of variation for the question difficulty parameter. Figure 2.5 shows that the EU member state question was momentarily very difficult in June 2010. This change reflects the accession of Bulgaria and Romania on January 1, 2007, which increased the number of EU member states from 25 to 27. As a result, the correct answer to this question changed from ‘true’ to ‘false’. This dramatic increase in question difficulty makes sense because news of this political event took some time to percolate into the minds of the Czech electorate.

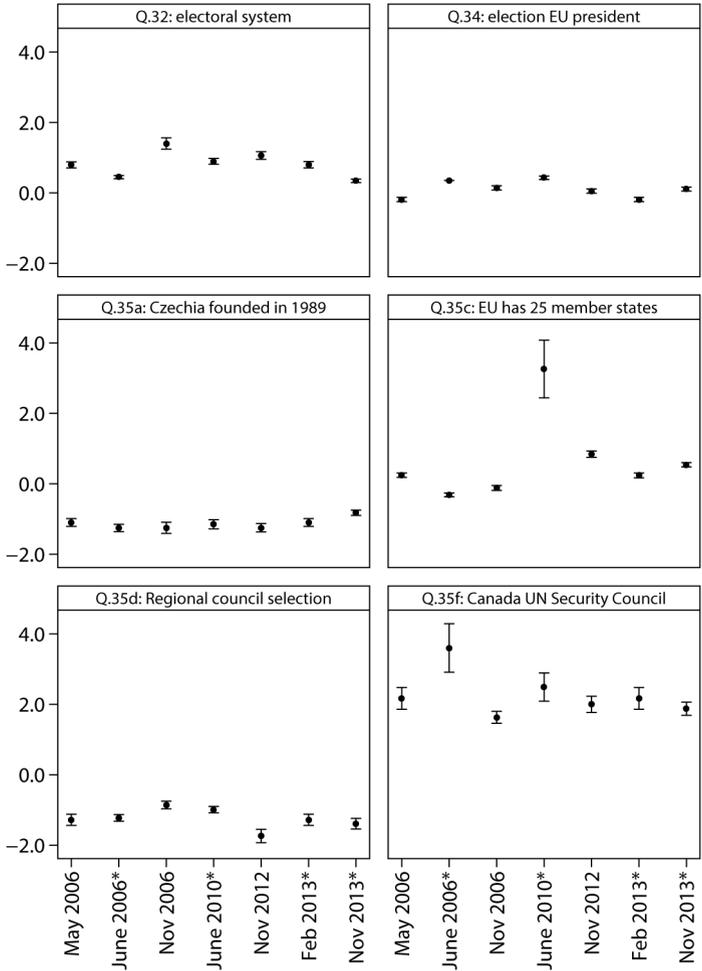
Finally, the two most difficult questions are (Q.32) ‘a proportional electoral system is used in lower chamber elections’ and (Q.34f) knowledge that ‘Canada is not a permanent member of the UN Security Council’ also show some variation in difficulty. The latter question proved to be especially difficult in June 2006 for some unknown reason. Overall, the difficulty of the standard set of six knowledge items across seven surveys fielded over eight years is largely stable. This means that some key features of Czech citizens’ answers to political knowledge questions remained constant between May 2006 and November 2013. In short, Czechs’ level of political knowledge did not change.

Turning now to the item discrimination parameters ( $a_i$ ) or the ability of specific questions to distinguish between respondents of similar abilities, we can see from Figure 2.6 that in general the discriminatory power of all items was largely the same across all seven surveys. Again, question (Q.35c) ‘the number of EU member states’ was quite different after 2006 owing to the accession of Bulgaria and Romania in 2007, and Croatia in 2013. In general, the item examining if respondents knew that there is ‘not an election to select the President of the EU Commission’ has the highest discriminatory power of all six questions asked. All other factual knowledge items have broadly similar levels of discriminatory power.

There is an interesting downward trend with some questions, such as Q.35a (‘the Czech Republic was not created in 1989’) and Q.35c (‘the EU has (not) 25 member states’); however, most other items have a broadly constant discriminatory power; or in the case of difficult questions, the discriminatory power varies considerably from one survey to the next.

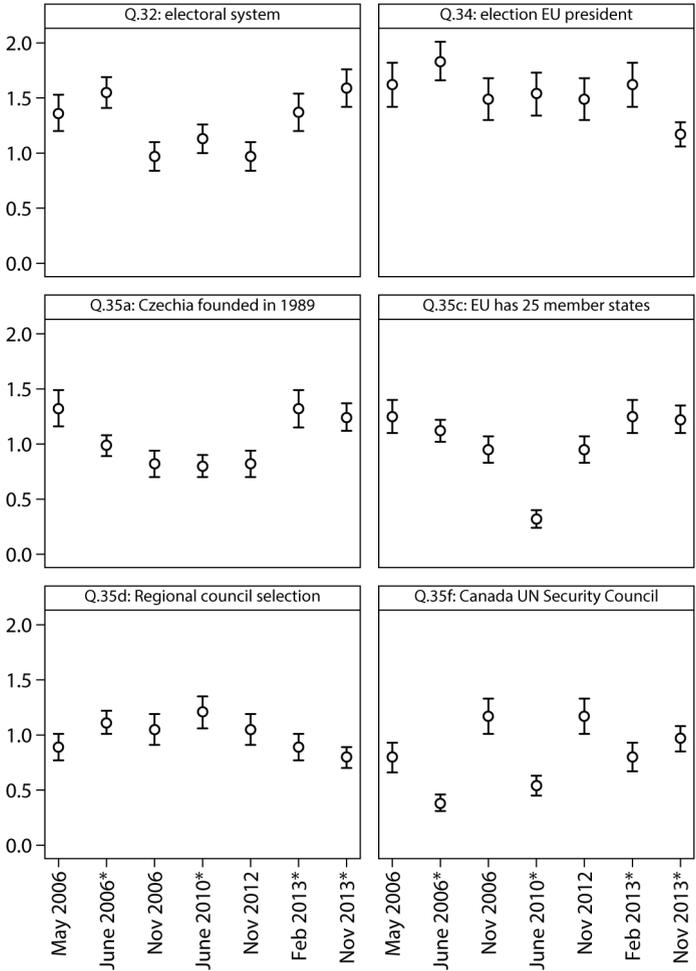
In sum, the difficulty parameters ( $b_i$ ) for the common set of political knowledge questions are more stable than the discriminatory

**Figure 2.5: A comparison of item difficulty for the standard political knowledge questions asked in the 2006, 2010 and 2013 post-election surveys**



Source: Czech National Election Surveys, 2006, 2010 and 2013, n=5512  
 Note the IRT models estimates are based on a 2PL specification. \* Indicates a post-election survey. The vertical bars refer to 95% confidence intervals for the estimates denoted by solid black circles. Negative values indicate easy questions and positive ones show that a question was difficult to answer correctly.

**Figure 2.6: A comparison of item discrimination for the standard political knowledge questions asked in the 2006, 2010 and 2013 post-election surveys**



Source: Czech National Election Surveys, 2006, 2010 and 2013, n=5512  
 Note the IRT models estimates are based on a 2PL specification. \* Indicates a post-election survey. The horizontal bars refer to 95% confidence intervals for the estimates denoted by solid black circles. Higher values indicate show that a question was better able to discriminate between two respondents of close to equal levels of factual political knowledge.

coefficients ( $a_i$ ). Some of the variation in the parameter values presented in Figures 2.5 and 2.6 reflect real world events, while other differences stem from the specificities of the samples selected and the surveying climate. On balance, these six common items examined in this subsection represent a reasonable, if not always perfect, basis for comparing political knowledge effects in later chapters. In the next section, there will be an exploration of the impact of changing the set of factual questions used to construct a political knowledge scale. This is important because it shows if attempts to make knowledge scales better are successful.

## 2.5 The Impact of Changing the Factual Knowledge Questions

One of the most important sources of cross-national data on political knowledge is the Comparative Study of Electoral Systems (CSES) archive of post-election surveys fielded since 1996. In CSES modules 1 to 3 (1996–2011) the protocol was to ask three factual knowledge items that were country-specific and would range in difficulty from ‘easy’, to ‘moderate’, to ‘difficult’. Attempts by scholars to field standard CSES knowledge questions were rejected because ‘[i]t is a hopeless task to come up with items that will work in a comparable fashion across polities’ (Milner 2002: 222, fn.11).

Subsequent research by Martin Elff (2009) using IRT models demonstrated that the CSES policy of having country-specific knowledge items was flawed because the objective knowledge scores generated from CSES Module 2 (2001–2006) were not comparable for three methodological reasons. First, the three knowledge items fielded across about 36 countries have different overall levels of difficulty, making some countries’ set of questions easier than others. Second, the CSES knowledge items have inconsistent response formats because they use a variety of open- and closed-ended questions, and this makes for inconsistent measures of knowledge due to varying difficulty, as it is generally harder to answer an open-ended item. Third, there is variation in the type of responses demanded from respondents, where some items are multiple-choice format and others demand a number (e.g. current unemployment/inflation rate) to be given. Again, this results in questions of varying difficulty because of the type of answer required.

Elff (2009: 18–20) advised that the CSES revise its knowledge items to be more like the items in the American National Election Survey (ANES), which (1) uses open-ended questions, (2) focusses on the holders of different (un)elected public offices, and (3) avoids using questions involving numbers.<sup>16</sup> In recognition of the ‘low-quality data’ generated

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16 However, the ANES objective political knowledge questions have problems of their own. DeBell (2013) has shown that the open-ended ANES political knowledge items were not coded correctly, and analyses based on previous releases of ANES (1986–2012) are unreliable. This unreliability may have adversely effected any models estimated using these data.

by the political knowledge questions fielded in CSES (1–3), the current CSES Module 4 (2013–) has implemented a revised set of four political knowledge questions that ask a generic set of four questions in all countries: (1) correctly name the former minister of finance, (2) select the correct name for the current UN Secretary General, (3) choose the correct unemployment rate that existed one month before the general election, and (4) correctly name the party that was the first runner-up in the general election. Each of these questions has four response options with the possibility to record ‘don’t know’ and ‘no answer’ as distinct replies. Martin Elff’s (2009) proposal for open-ended and non-numerical responses was ignored. The failure of the new CSES knowledge questions to improve data quality led the CSES to decide not to ask any factual political knowledge items in Module 5, 2016–2021 (see, Gidengil et al. 2016).

### *2.5.1 A comparison of the determinants of knowledge across old and new CSES scales*

In the post-election survey for the Czech Lower Chamber election of October 2013, both the ‘old’ and the ‘new’ CSES sets of political knowledge questions were implemented. The goal here was to explore if there is a difference between the two versions of the CSES objective political knowledge scales in the Czech Republic. An initial analysis explored the difficulty and discrimination parameters of a 2PL IRT model of the ‘old’, the ‘new’ and ‘all’ the CSES knowledge items together. Additional analyses shows that in general the model parameters are stable regardless of how the knowledge scales are constructed. This implies that the old and the new items are equally good indicators of the latent knowledge trait and provide equally valid measures of political knowledge when used separately (‘old’ vs ‘new’) or all together in a large scale with 10 items. In order to assess potential differences between both CSES knowledge scales, a standard model of the determinants of political knowledge was estimated.

Here a Motivation-Ability-Opportunities (MAO) model of the determinants of a political knowledge scale was estimated using a 2PL IRT estimator. As noted earlier in the introductory chapter, the MAO framework for exploring why some citizens know more than others has been widely used within the study of political knowledge (e.g. Converse 1964a; Delli Carpini and Keeter 1996). A more detailed presentation of the MAO approach will be given in Chapter 3. The main goal here is to directly compare the effects of the determinants of objective or factual political knowledge for the old and the new CSES items, which were asked to the same set of respondents in the Czech Republic in November 2013.

The modelling results presented in Table 2.3 reveal that in the Czech Republic the determinants of objective political knowledge using the old and the new CSES knowledge scales have the same effects. This suggests

**Table 2.3: A comparison of the determinants of political knowledge when the knowledge questions were changed, Czech Republic 2013**

<i>MAO models, variables</i>	<i>Old CSES knowledge scale</i>				<i>New CSES knowledge scale</i>			
	<i>B</i>	<i>CI-</i>	<i>CI+</i>	<i>Sig.</i>	<i>B</i>	<i>CI-</i>	<i>CI+</i>	<i>Sig.</i>
<i>Motivation (M)</i>								
Satisfied with democracy	-.01	-.07	.05	.725	<b>.07</b>	<.01	.14	.064
Left-wing orientation	.03	-.04	.11	.388	.01	-.08	.10	.816
Right-wing orientation	<b>.10</b>	.03	.18	.008	<b>.12</b>	.04	.21	.004
Party attachment	<b>.12</b>	.05	.19	.001	<b>.12</b>	.05	.20	.002
Govt. in power matters	<b>.28</b>	.14	.41	<.001	<b>.25</b>	.10	.41	.001
Voting matters	<b>.21</b>	.07	.35	.004	<b>.20</b>	.04	.35	.011
Attend religious services	.01	-.11	.13	.914	.10	-.04	.23	.159
<i>Ability (A)</i>								
Education level	<b>.47</b>	.37	.57	<.001	<b>.57</b>	.47	.68	<.001
<i>Opportunity (O)</i>								
Trade union member	.04	-.09	.17	.572	<b>.16</b>	.02	.31	.029
Age, linear	<b>.27</b>	.08	.45	.005	.16	-.05	.36	.133
Sex (female)	<b>-.11</b>	-.17	-.05	<.001	<b>-.15</b>	-.21	-.08	<.001
Marital status: single	<b>&lt;.01</b>	-.10	.10	<.001	<.01	-.11	.11	.997
Marital status: married	<b>.11</b>	.03	.18	.004	.04	-.04	.11	.381
Employed	.02	-.05	.08	.610	<b>.07</b>	<.01	.14	.038
Intercept	-.73	-.87	-.59	<.001	-.71	-.86	-.55	<.001
R	.43				.43			
R <sup>2</sup>	.18				.19			
Adjusted R <sup>2</sup>	.17				.18			
Std. Error Estimate	.66				.60			
N	1653				1653			

Source: Czech National Election Studies, 2013, n=1653

Note the dependent variable is level of political knowledge was estimated as a two-part logistic (2PL) IRT model using the correct answers to quiz questions in each post-election survey as part of the CSES research programme. The 'old CSES' items refer to 6 questions used consistently in post-election surveys in 2006, 2010 and 2013 while the 'new CSES' questions are 4 items introduced by CSES for module (2013-) aim to increase the quality of political knowledge scales. All variables are scaled 0–1 to aid interpretation. The 'CI-' and 'CI+' columns refer to lower and upper bounds of the 95% confidence interval estimates respectively.

that revising the factual political knowledge battery of questions had little impact on how Czechs' level of factual knowledge is measured. This is because the relationships between the factual knowledge scales and the set of MAO variables are identical, with all parameters having overlapping 95% confidence intervals.

There are two reasons for these 'null' results. First, in the Czech Republic the old and the new CSES knowledge scales are equally valid and reliable. Second, the new items are no better than the old ones because Elff's (2009) advice for qualitatively better scales was not adopted. Since there are doubts about the validity and reliability of CSES knowledge items for cross-national research, single-country case studies represent the most appropriate way of determining whether the new political knowledge scales are indeed an improvement. In the Czech case the answer is no. This implies that cross-time analyses of objective political knowledge effects should not be affected by the change in scale if 2PL IRT models are used.

## Conclusion

A central theme of this chapter, reflecting the opening epigraphs, is that the interpretation of the political facts measured in surveys is critically important. In the previous chapter, the discussion focussed on theoretical considerations, while this chapter has focussed on measurement issues. Both theory and measurement are intimately connected in the study of political knowledge, and this is reflected in the statistical methods used to estimate objective (factual) political knowledge scales. Later chapters will look in greater detail at alternative ways of measuring and comparing different types of political knowledge in Chapters 5 to 10.

Nonetheless, throughout this book frequent use will be made of two-part logistic Item Response Theory (2PL IRT) models of objective political knowledge survey questions. This is because this type of IRT model most often best fits the data in statistical terms and provides a coherent theoretical framework for using and comparing knowledge scales.

It is important to end this chapter on the survey-based measurement of objective or factual political knowledge with a caveat regarding the 'odd social experience' of being interviewed for a survey. Imagine the situation where a 'rather well-educated, middle-aged woman, who carefully notes each response' where most citizens are not familiar with 'having their every utterance faithfully recorded... and preserved for the ages'. It is not surprising that many respondents 'do not wish to appear unprepared' and are motivated to discuss in an authoritative manner 'subjects about which they know nothing or to which they have (not) given any thought whatsoever' (Mueller 1973: 1; see also Converse 1964b: 20–21). This is an important topic that will be explored in greater detail in Chapter 4 in reference to explaining differences in national survey response

style, where we will see that the prevailing national culture may play an important role in how political questions are answered.

The well-known social desirability bias associated with survey interviews means that respondents report attitudes that do not exist, and within the context of factual political knowledge measurement the propensity of interviewees to treat a political quiz as a test motivates guessing. Fortunately, many of the political knowledge items examined in this book adopted were accompanied by an explicit instruction discouraging guessing. The IRT modelling results suggest this surveying protocol was successful, as IRT (3PL) models that estimated a 'pseudo-chance-level parameter' had lower model fit than the simpler two-parameter (2PL) model.

Throughout this chapter there has been discussion of the importance of an informed citizenry for effective political representation and of the methodology underpinning the measurement of factual or objective political knowledge in mass surveys. An equally important question is what are the determinants of objective political knowledge? This is the topic of Chapter 7, which, using data from the 2006, 2010 and 2013 post-election surveys, will examine why some citizens are more informed than others, and what this individual-level analysis tells us about the nature of objective political knowledge in liberal democratic systems such as the Czech Republic.

Before embarking on such work it is necessary first to map out what is known about Czechs' knowledge of politics over the long run, and what data are available for such cross-time analyses. Chapter 3 will explore the level of objective political knowledge among Czechs over a five-decade period between June 1967 and November 2013. This mapping exercise will show what kinds of political facts researchers have used to evaluate citizen competence. This is important because it highlights a central theme of this book: how knowledge and citizen competence is measured reflects as much about researchers' (often implicit) theories of truth, knowledge and the nature of liberal democracy as it does about citizens' awareness of public affairs.

## **PART 2: DATA AND MEASUREMENT**



# Chapter 3: Overview of Objective Political Knowledge in the Czech Republic, 1967–2014

We are not arguing that contemporary democracy requires that all citizens be experts on all facets of national politics, but we do suggest that the more citizens are passingly informed about the issues of the day, the behaviour of political leaders, and the rules under which they operate, the better off they are, the better *we* are.

Delli Carpini and Keeter (1996: 61)

The world is a totality of facts, not of things. [...] We make to ourselves pictures of facts.

Ludwig Wittgenstein (1922: 25, 28)

## Introduction

Is factual or objective political knowledge important? The short answer to this question, according to political scientists, is ‘yes’. The main reason for this positive answer, as Delli Carpini and Keeter (1996) neatly state in the epigraph above, is that democratic decision-making requires informed citizen input otherwise elites of various types take all key decisions, thereby undermining collective decision-making. From this democratic perspective, the justification of low knowledge decision-making through the use of informational shortcuts or heuristics does not address the fundamental problem: knowledge for decision-making must come from either citizens or elites. Citizen dependence on informational cues from elites, a feature of many heuristic explanations of uninformed decision-making, ignores the democratic criterion that collective decision-making must be based on factual knowledge. For this reason mapping citizens’ level of factual knowledge over time is important because it shows (1) who is informed and (2) if the general level of knowledge has changed over time. Both of these are empirical questions.

The second epigraph from Wittgenstein implies that although the political world is composed of real actors, institutions and processes (i.e. things), it is the totality of facts which matters most. Bertrand Russell ([1918], 2010: 7) made a similarly distinction between facts and things.

I want you to realize that when I speak of a fact I do not mean a particular existing thing, such as Socrates or the rain or the sun. Socrates himself does not render any statement true or false. What I call a fact is the sort of thing that is expressed by a whole sentence, not by a single name like ‘Socrates.’ [...] We express a fact, for example, when we say that a certain thing has a certain property, or that it has a certain relation to another thing; but the thing which has the property or the relation is not what I call a ‘fact.’

This perspective, which gives priority to facts above things, has attracted controversy because it hints at an idealist view of the world where ‘facts’ rather than ‘things’ will constitute what is true (note cf. Bunge 2006: 20–21). A portrait of the political world can be given in terms of the totality of facts rather than things. Facts are defined here as statements that are either correct or not. It is easier to see this distinction between ‘facts’ and ‘things’ through an example.

The statement ‘The Czech Republic came into existence in 1993’ is correct. The area and population that constitute the ‘Czech Republic’ quite obviously existed prior to January 1, 1993, but it is the fact that a new constitution entered into force for the Czech and Slovak components of the (former) Czechoslovak Federal Republic which makes the statement above ‘factually’ true. A key empirical fact (rather than thing), that is, the existence of a new constitution from January 1, 1993, makes the thing called the Czech Republic true. Two key points emerge from Wittgenstein’s epigraph: (a) facts are truths as the correspondence theory asserts and (b) facts are equal to things, which implies that knowledge about something (e.g. the Czech Lower Chamber of Parliament has 200 members) is equally important as the thing itself.

The importance of ‘information’ dovetails neatly with a point made by Wittgenstein’s contemporary, Walter Lippmann ([1922] 1949), who advanced the notion that public opinion (as later measured in mass surveys) is best characterised by citizens’ ‘pictures in their heads’, or ‘pictures of facts’ as Wittgenstein (1922: 28) described it, rather than direct familiarity with politics. In other words, citizens’ knowledge or understanding of politics is primarily ‘factual’ in a specific sense. And it is these accurate or distorted pictures, or facts, that are most important.

Lippmann in this respect made the incisive point that the ‘real environment is altogether too big, too complex, and too fleeting for direct acquaintance’. (1922/1949: 11) Consequently, individuals create their own personal views of politics from whatever knowledge they possess. As each person has their own unique collection of political facts they ‘live in the same world, but think and feel in different ones’ (Lippmann 1922/1949: 13, 15–16). Seven decades later John Zaller (1992) emphasised that it is a citizen’s (level of) awareness of the messages elites communicate through the media that is critical for understanding public opinion. Here again, it is factual knowledge or awareness of political facts, rather than the real substance or this ‘thing’ called politics, which is most important.

The goals of this chapter are to provide an overview of what constitutes ‘political facts’ and how these facts have been measured in mass surveys fielded among Czech respondents over five decades. This mapping out exercise highlights that political knowledge has been measured in a variety of ways where the content of knowledge questions and associated response formats have reflected the implicit theories of truth.

### 3.1 An Overview of Objective Political Knowledge Survey Data, 1967–2014

The set of factual political knowledge questions examined in this book come from a set of national surveys fielded in the Czech Republic over almost five decades between 1967 and 2014. It was already noted in the previous chapter that many of these surveys are post-election studies that form part of the Comparative Study of Electoral Systems (CSES) international research project fielded in roughly three dozen countries. A complete listing of the CSES's 'political information' questions is given in the appendix of this chapter; these items facilitate comparative research across many European countries and beyond. The methodology used by CSES for measuring political knowledge among citizens is both interesting and useful because it provides insight into how and why knowledge items are used in mass surveys.

It was noted earlier in Chapter 3 that in the CSES post-election surveys the content of political knowledge questions between 1996 and 2012 was left to the discretion and expertise of national research teams. The main requirement was that there should be at least three knowledge items, and one question should be easy, one moderately difficult and one very difficult. The objective was to construct a summated rating scale where the relative difficulty of the factual items would discriminate between citizens with different levels of knowledge. Consequently, most often CSES political knowledge questions dealt with facts about national politics, such as being able to correctly name a specific government minister using a simple true or false approach. Alternatively, a multiple-choice format was used and occasionally an open-ended answer was demanded, such as asking for the name of a government office-holder.

A similar strategy is used in other important cross-national political survey research programmes. For example, the set of political knowledge questions fielded by Eurobarometer (EB) bi-annually over the last decade often consists of three questions that are typically easy, moderate, and difficult. In the EU the process of having frequent European Parliament elections every four or five years since 1979 means there is the opportunity to examine political knowledge in a comparative manner. Fortunately, the 2009 and 2014 waves of the European Election Study fielded a battery of political knowledge questions (7 and 6, respectively) that may be used to examine electoral behaviour in the European Parliament elections in all member states (e.g. Fraile 2013, 2014).

Many influential comparative survey research programmes such as the European Social Survey (ESS) and the International Social Survey Programme (ISSP) do not ask political knowledge items. Most often the main reason for not asking knowledge questions is methodological in nature: it is difficult to make international comparisons when the content of political knowledge varies across countries. For example, the relevance of a question asking 'who is the prime minister?' differs in parliamentary and presidential systems, and so what is an 'easy' question

in one country is a ‘difficult’ one in another. This comparative measurement issue is often not addressed in political knowledge research.

An analysis by Elff (2009) of CSES data, discussed earlier in Chapter 3, found that (1) the level of knowledge varied across countries because the questions asked were not of the same difficulty in all countries, and (2) the discriminatory power of the knowledge questions asked differed across countries. This implies that comparing the effects of knowledge using CSES data is fraught with problems because the knowledge scales are not directly comparable across countries. This suggests that country-level analyses across time might be a more productive line of inquiry: the position adopted in this chapter.

### *3.1.1 Surveys with objective political knowledge items*

An overview of the amount of factual political knowledge surveying in the Czech Republic is given in Table A3.1 in the appendix of this chapter. This inventory lists the surveys that contain factual political knowledge questions asked to Czech respondents between June 1967 and late 2015. There is no frequent and consistent time series of standard questions. For most of the 1970s and 1980s there is nothing because the communist government restricted public opinion polling to a small number of non-political topics (see Lyons 2009: 40–42).

During the 1990s and 2000s most factual political knowledge questions were fielded in post-election surveys as part of the CSES and to a lesser degree in European Election Studies (see Lyons 2013: 107–146). One implication of this timing of research into political knowledge is that citizens’ awareness of politics may be boosted by election campaign effects. However, the exploration of Item Response Theory (IRT) scales of political knowledge questions fielded between 1996 and 2013 at different stages of the electoral cycle, and reported earlier in Chapter 2 in Figures 2.5 and 2.6, indicates that this is not a serious problem.

Studies of citizens’ level of objective (factual) political knowledge often start with a classification of the type of knowledge questions asked in surveys (e.g. Russell Neuman 1986: 55, 191–218; Delli Carpini and Keeter 1996: 68–104, 116–134, 291–306; Elff 2009). In this chapter all of the knowledge items asked between 1996 and 2014 were classified in terms of three criteria: (a) topic, (b) format, and (c) type. The goal of this analysis is to provide a summary of what types of factual political knowledge have been measured.

Without going into details this analysis reveals that most questions asked to Czech respondents between 1996 and 2013 were institutional in nature referring to such facts as type of electoral system, number of legislators in the lower chamber, criteria for parties and individuals entering parliament, and which institution is responsible for domestic waste. In most cases the response options were closed and respondents had to select one from a fixed set of potential answers. This analysis also

shows that respondents selected the correct answer from a short multiple-choice list or simply indicated a ‘true’ or ‘false’ response. Finally, almost eight in ten questions dealt with general topics rather than specific facts such as exact numerical estimates for unemployment or inflation or giving the exact name of a government minister.

In short, the evidence for the type of knowledge questions posed shows that most objective political knowledge questions asked to Czech respondents since 1996 followed a simple quiz approach asking about political institutions using a multiple-choice format. This means that Czech citizen competence was measured in terms of the ability to recall contemporary political facts.

### **3.2 Objective Political Knowledge in 1967**

The first survey-based exploration of objective political knowledge among Czechs (and Slovaks) was the ‘Images of the World in the Year 2000 Survey’ that was fielded in about a dozen countries between 1967 and 1970 across Europe and Asia. This survey was unique for a number of reasons. First, it was the first survey on political knowledge among Czechs (and Slovaks) for which the individual-level data still exist. Second, this survey examined the attitudes of the younger generation (15 to 40 years old) about what they thought life would be like at the (turn of the) millennium (2000). This generation is politically important because two decades later, in 1989, this cohort constituted much of the leadership of the post-communist governments of the 1990s and beyond.

The Czechoslovak wave of this survey was implemented in June 1967 to a representative sample of the ‘younger generation’ (15–40 years old) of more than a thousand respondents ( $N=1,174$ ). Those interviewed were asked if they knew which countries were members of the Soviet-led Warsaw Treaty Organisation, the American-led North Atlantic Treaty Organisation (NATO), or were not formally aligned with either of these two Cold War military alliances. A set of sixteen countries were presented to respondents allowing a factual political knowledge scale (based on awareness of international military alliance membership) to be constructed. Within this book all factual knowledge items have been analysed using two-part logistic Item Response Theory (2PL IRT) models for reasons outlined earlier in Chapter 2. The resulting scales have been recoded for convenience into quartiles: (1) very low, (2) low, (3) high, and (4) very high.

With this IRT knowledge scale, and the associated division of respondents into quartiles, it is possible to undertake separate analyses of Czechs and Slovaks and to explore if there were important knowledge differences between these two nationalities in June 1967. A number of scholars have suggested that one reason for the dissolution of the Czech and Slovak Federative Republic in late 1992 was ethnic differences in political attitudes, beliefs, engagement, and knowledge.

It makes sense to take advantage of the cross-national nature of the Images of the World in the Year 2000 survey to explore the profile of knowledge across the Cold War divide contrasting level of knowledge in Warsaw Treaty Organisation countries (Czechs and Slovaks), NATO states (Federal Republic of (West) Germany, Britain, Norway and the Netherlands) and the militarily non-aligned or neutral countries (Spain, Finland and Slovenia / Yugoslavia). With these survey data it is possible to answer two important questions. First, did Czechs and Slovaks have different levels of political knowledge in the late 1960s reflecting the federal nature of the state? Second, did 'socialist' and 'capitalist' citizens have different levels of knowledge reflecting varying levels of access to news?

### *3.2.1 A comparison of factual knowledge among Czechs and Slovaks*

With regard to the first question, a profile of which subgroups of Czechs and Slovaks were knowledgeable about international military alliances in June 1967 is shown in Table 3.1. Some of the characteristics in the bottom part of this table are socio-demographic and refer to citizens' 'opportunities' to access political messages in the media and elsewhere. Education is viewed as being a measure of cognitive 'ability' where those with higher levels of schooling are seen to be better able to process or use political knowledge. The dogmatism, policy dissatisfaction and political engagement variables refer to the 'motivation' (see the top of Table 3.1) that leads a person to avoid or seek out political information.

Dogmatism is a psychological concept that refers to the degree to which a person is 'closed-minded' and resists exposure to new information that might undermine pre-existing attitudes and values. Consequently, respondents who have a dogmatic style of thinking should be less knowledgeable because they refuse to learn new things that are contrary to their current beliefs. In contrast, individuals who are dissatisfied with policy making in a country are by definition 'critical citizens' and hence more likely to seek out information and be knowledgeable. A more detailed explanation will be given later in Chapter 7, which examines the origins or determinants of political knowledge.

These poll results show that respondents who are male and older, have higher levels of education, are dissatisfied with policy making, and are not dogmatic have higher levels of knowledge. In general, the same pattern exists for Czechs and Slovaks. However, a more detailed comparison of 'very high' and 'very low' levels of knowledge outlined in Table 3.1 reveals some differences between Czechs and Slovaks. For example, policy dissatisfaction, dogmatism, age and political group membership all exhibit statistically significant differences ( $p \leq .05$ ) among Czechs, but not Slovaks. One common feature in the pattern of knowledge among both Czechs and Slovaks is the gender gap: men in June 1967 knew significantly more about countries' military alliances

**Table 3.1: Profile of political knowledge in a Warsaw Treaty Organisation member state, Czechoslovakia, June 1967 (per cent)**

<i>Variables</i>	<i>Czechs</i>			<i>Slovaks</i>		
	<i>N</i>	<i>LO</i>	<i>HI</i>	<i>N</i>	<i>LO</i>	<i>HI</i>
<i>Policy dissatisfaction</i>						
Very low	134	<b>38</b>	18	78	27	22
Low	305	23	21	55	22	29
High	195	26	26	75	25	21
Very high	220	<u>19</u>	<b>29</b>	116	25	32
<i>Dogmatism</i>						
Very low	236	<u>18</u>	<b>29</b>	80	19	23
Low	246	26	22	90	29	32
High	185	30	19	84	25	25
Very high	187	27	22	70	27	26
<i>Political engagement</i>						
Very low	220	<b>32</b>	20	77	<b>42</b>	<u>16</u>
Low	209	23	26	79	23	29
High	201	24	25	82	22	27
Very high	224	21	23	86	<u>15</u>	34
<i>Religion</i>						
None	563	<u>23</u>	<b>27</b>	80	23	<b>38</b>
Practice, no belief	30	30	10	21	24	19
Belief, no practice	173	26	<u>17</u>	89	20	20
Belief & practice	87	<b>36</b>	20	134	30	25
<i>Education</i>						
Primary	24	38	33	5	20	0
Secondary	805	25	<u>23</u>	314	25	26
Tertiary	25	<u>8</u>	<b>44</b>	5	0	<b>80</b>
<i>Married</i>						
No	355	26	22	139	28	24
Yes	499	25	25	185	23	28
<i>Age cohort</i>						
15–23 years	302	<b>29</b>	21	111	29	22
24–40 years	552	<u>23</u>	25	213	23	29
<i>Sex</i>						
Male	435	<u>16</u>	<b>33</b>	166	<u>16</u>	<b>34</b>
Female	418	<b>35</b>	<u>13</u>	158	<b>35</b>	<u>18</u>

<i>Variables</i>	<i>Czechs</i>			<i>Slovaks</i>		
	<i>N</i>	<i>LO</i>	<i>HI</i>	<i>N</i>	<i>LO</i>	<i>HI</i>
<i>Economic status</i>						
Student	112	21	21	47	19	26
Worker	465	<b>30</b>	22	162	<b>30</b>	24
<i>MPG</i>						
No	583	<b>27</b>	<b>21</b>	234	24	26
Yes	271	<b>20</b>	<b>30</b>	90	28	29
<i>Total</i>	<i>854</i>	<i>25</i>	<i>24</i>	<i>324</i>	<i>25</i>	<i>27</i>

Source: Images of the World in the Year 2000 surveys, Czechoslovak wave, June 1967, n=1174

A political knowledge scale was constructed from 16 items based on questions 30a to 30p ‘Does this country belong to NATO, to the Warsaw Treaty, or to neither of these?’ All answers were recoded to correct or not correct. An item response theory two-part logistic (IRT 2PL) model was used to estimate a knowledge scale for each respondent. This scale was divided into knowledge quartiles: very low, low, high, very high. For brevity only the ‘very low’ [LO] and ‘very high’ [HI] results are presented here. N indicates the subgroup size. The Czechoslovak survey was fielded in June 1967 and here the separate results for Czechs and Slovaks are presented. MPG refers to membership of a political group.

during the Cold War than women. This gender gap is evident in almost all countries for which political knowledge data exist, and has been observed since political knowledge was first measured in the 1940s in the United States. More will be said on this point in later chapters. It should be noted that the difference in sample sizes for the Czech and Slovak respondents (854 versus 324) may account for some of the statistically significant differences observed.

### 3.2.2 *A comparison of citizen knowledge across the Cold War divide*

The second question explored in this section is the suspicion that there were significant differences in knowledge levels for citizens living under communism and those living elsewhere in the late 1960s. The reasoning here is that citizens living under communist or liberal democratic regimes would have had dissimilar knowledge of military alliance membership because the media systems in communist (e.g. Czechoslovakia) and authoritarian states (Spain) had censorship and those elsewhere were more open. The Images of the World in the Year 2000 survey data show that the general level of knowledge of citizens across Europe during the late 1960s was broadly similar. A more detailed overview is presented later in Chapter 7, which examines the response strategies used in this survey.

An exploration of the level of objective political knowledge, divided into quartiles, in terms of style of thinking (dogmatism), being a critical citizen (policy dissatisfaction), and interest in politics (political engagement) is presented in Figure 3.1. These graphs reveal a broadly similar pattern across all eight national samples examined, regardless of residence on either side of the Iron Curtain. Higher levels of dogmatic thinking are always associated with lower levels of political knowledge. In contrast, higher levels of political engagement and policy dissatisfaction are linked with greater factual knowledge.

More detailed cross-tabulations of all eight national samples reveals that lower levels of knowledge are more prevalent among the closed-minded, females, and those with less schooling. Otherwise many of the variables examined tend to show significant statistical differences ( $p \leq .05$ ) in levels of knowledge for a subset of countries.

In sum, the survey evidence presented in this section is important for two reasons. First, there were no major systematic differences in the profile of knowledge between Czechs and Slovaks. Second, there are no discernibly contrasting patterns in the profile of knowledge for socialist and capitalist citizens. Specifically, the Motivation-Ability-Opportunity (MAO) factors associated with determining differences in citizens' knowledge of politics, that is, 'Motivation' (i.e. policy dissatisfaction, dogmatism, and political engagement), 'Ability' (i.e. education) and 'Opportunity' (i.e. religious belief and practice, age, sex, marriage, and political group membership), operated in a broadly similar manner in all eight national samples examined.

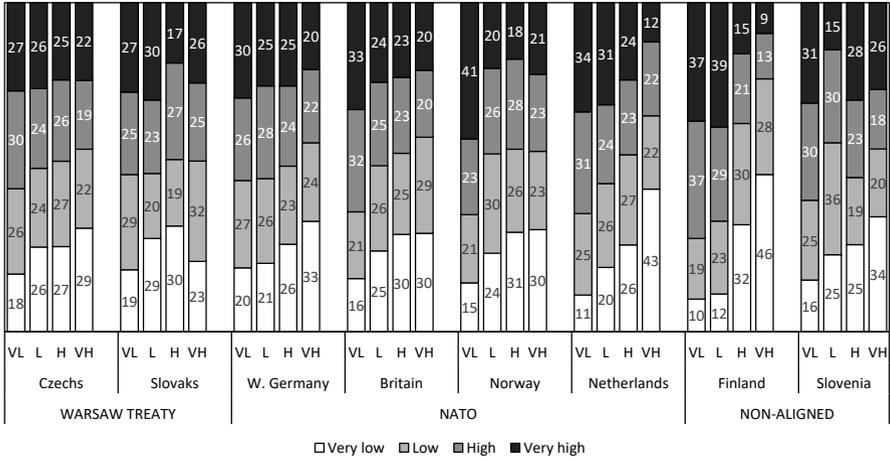
With the end of the Prague Spring reform movement following the Warsaw Treaty Organisation's invasion of Czechoslovakia on August 20–21, 1968 (and the subsequent repressive period of 'Normalisation'), there were no further national surveys of political attitudes or knowledge until after the fall of communism in late 1989. Fortunately, there was an unofficial survey fielded primarily in Prague during late 1985 and early 1986 that provides some valuable insight into Czech citizens' likely level of political knowledge on the eve of the national demonstrations that led to the first open and free democratic elections in June 1990.

### **3.3 Objective Political Knowledge Prior to the Velvet Revolution**

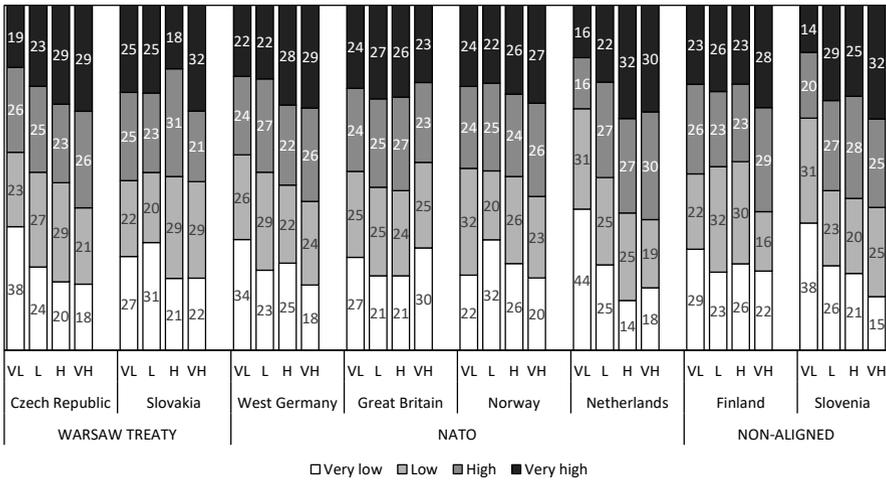
One of the assumptions often made about the archetypal 'socialist man or woman' or 'communist citizen' in both Cold War and post-1989 scholarship is that there were generally low levels of political knowledge and interest. Consequently, in the early 1990s the new post-communist citizens, now living in liberal democratic states, had a lot of learning to do because they understood little about democracy and its institutions (e.g. Barnes and Simon 1998; Rose, Mishler and Haerpfer 1998; Pridham and Ágh 2001; Howard 2003; Kornai et al. 2004; Ekman and Linde 2005;

**Figure 3.1: Political knowledge profile across the Cold War divide, 1967–1970**

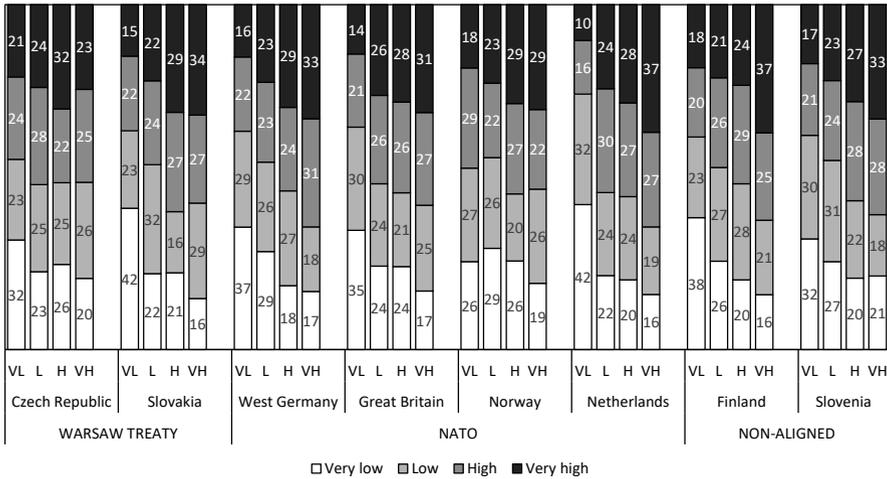
*(a) Dogmatism*



*(b) Policy dissatisfaction*



(c) Political engagement



Source: Images of the World in the Year 2000 survey, 1967–1970

Note that level of factual political knowledge is divided into quartiles. In this figure ‘VL’ indicates a “Very Low” knowledge score, and ‘L’, ‘H’ and ‘VH’ refer to “Low”, “High” and “Very High” scores respectively. All bar percentages sum to 100% subject to rounding error.

Kornai 2006). This interpretation has been questioned in recent scholarship (Lyons 2009, 2013; Bren 2010).

There is always the danger of conflating lack of access to international media sources and dependence on state-censored domestic news with lower levels of political interest and knowledge among citizens living in ‘closed’ societies. The evidence presented in the previous section demonstrates this was not true for Czechoslovak citizens in June 1967, a few months before the start of the Prague Spring era. The topic addressed in this section is the level of knowledge and interest evident among Czechs a short time before the collapse of communism in late 1989.

The democratic and bureaucratic centralist administrations of Gustáv Husák (1969–1987) and Miloš Jakeš (1987–1989) attempted to control the flow of information and news to the public. A covert survey undertaken in late 1985 and early 1986 (hereafter 1986) dealt with a range of public issues that had not been the subject of polling since 1968. The questionnaire consisted of 85 questions exploring political orientation, level of activism, attitudes toward politics, sources of information, knowledge, and perceptions of international relations.

It would be easy to dismiss this survey because it was not based on a random sample of Czechoslovak citizens. This survey used a form

of snowball sampling yielding an over-representation of the urban well-educated and an under-sampling of Communist Party (KSČ) members. The final sample size was relatively small (N=342), and the survey, because of its novelty, appears to have been a source of discussion among a thousand people (Šiklová 2004: 676). Whether this indicates a response rate of about 30–35% (typical for a postal survey) or respondents reflecting the views of their social circles rather than themselves is impossible to tell from the surviving evidence.

While the climate of opinion was not ideal, it was nonetheless sufficient to yield data that were reasonably reliable, as the following comment from Jiřina Šiklová, a sociologist directly involved in the fieldwork in 1986, makes clear (quoted in Kyncl 1986: 2; Šiklová 2004: 677, original in Strmiska 1986b: 265).<sup>17</sup>

People weren't afraid to copy the questionnaire, they weren't afraid to approach their friends. So that if forty years from now [2026] someone should write – as is the fashion these days to write about the Nazi occupation – that here in Bohemia every other person was an informer, perhaps the outcome of the opinion poll will help to counter such allegations. All those who helped with the questionnaire were known in their neighbourhood, they did not have the benefit of pseudonyms or anonymity, and yet they have not had the slightest repercussions as yet.

The results of this research were published in Pavel Tigrid's *Svědectví* quarterly magazine (one of the most famous Czechoslovak exile publications, produced in Paris from 1960 onwards). In the *Svědectví* article there was an outline of the questionnaire and a report using descriptive and inferential statistics (for subgroup differences, Chi-squares and Tukey-Kramer's Q-statistic for significance testing across multiple arithmetic means) was written up by Zdeněk Strmiska (1986a,b) – an exiled Czech sociologist who had been part of the clandestine survey's design team (note also Kyncl 1986; Otava 1987; Šiklová 2004). While there is much that is interesting in this unique survey, the focus here will be on political knowledge of the Czech respondents and its association with a small number of socio-demographic variables (sex, age and education) and ideological outlook.

### *3.3.1 Factual political knowledge in 1985–1986*

The political knowledge questions asked in the Independent Survey of Public Opinion in Czechoslovakia fielded during 1985 and 1986 were not ideal. This is because the questionnaire asked for individuals' sub-

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<sup>17</sup> Zdeněk Strmiska, a Czech émigré sociologist based at the Centre des Recherches Interdisciplinaire sur les Transformations Sociales (CRIT) in Paris, stated: 'The poll is extremely valuable in what it tells us about Czechoslovak society today. And even if the ascertained data do not always represent the whole of that society, they as a rule represent significant segments of it.' (quoted in Kyncl 1986: 2)

jective assessment of their own knowledge of fifteen specific facts. An objective quiz format used in face-to-face interviews was not appropriate with a (semi)clandestine self-completion survey. Notwithstanding this limitation, these fifteen factual questions form the only study of objective political knowledge currently available for Czechoslovak public opinion during the 1980s. This survey explored public knowledge of 'famous people' (9 items) and organisations (6 questions).

Popular knowledge of individuals focussed on people who played some role in (a) the struggle against communism, (b) represented the democratic tradition during the First Republic, or (c) symbolised artistic creativity. Politics from the pre-communist era was represented in the survey by the legacies of Milan Hodža (Prime Minister, 1935–1938) and Prokop Drtina (Minister of the Interior, 1945–1948). Ferdinand Peroutka (1898–1978) represented democratic journalism, and culture was represented with the poets Jan Čep (1902–1973) and Jiří Kolář (1914–2002). Knowledge of well-known international figures was examined using Milovan Djilas (1911–1973, a Yugoslav intellectual) and Andrei Sakharov (1921–1989, a Soviet human rights dissident). Being informed about people publicly active outside Czechoslovakia was explored through the efforts of Pavel Tigríd (1917–2003, an anti-communist journalist living in Paris and editor of *Svědectví*) and Jiří Pelikán (1923–1999, a Member of the European Parliament for the Italian Socialist Party and editor of *Listy*, an émigré newspaper in Rome). Knowledge of domestic citizen initiative movements were examined in terms of Charter 77 (an informal civic initiative in communist Czechoslovakia active from 1976 to 1992); VONS (Committee for the Defense of the Unjustly Prosecuted) and Infoch (a publisher); and the samizdat (clandestine) publishers Edice Petlice / Edice Expedice. Awareness of foreign publishers was examined in terms of Pavel Tigríd's *Svědectví* and Josef Škvorecký's Sixty-Eight Publishers based in Toronto, Canada.

The results shown in Table 3.2 reveal that a majority of three in four respondents knew of Charter 77, with two in three claiming knowledge of Soviet dissident Andrei Sakharov. Small majorities were aware of the external publishing work of Pavel Tigríd in France and Jiří Pelikán in Italy, and had had exposure to publications such as *Svědectví* and knowledge of the VONS dissident organisation. Only a minority had knowledge of journalists and politicians primarily associated with the First Republic (1918–1938 were familiar with modern Czechoslovak culture (represented by poets Jan Čep and Jiří Kolář).

In the original commentary on these results, Zdeněk Strmiska (1986b: 293) made the point that knowledge of Milan Hodža, Jan Čep, Prokop Drtina, and Ferdinand Peroutka was not part of the official historiography and ideology. Consequently, information about these figures would have been only accessible through old textbooks and encyclopedias published during the First Republic (1918–1938). For the purposes of analysis the sample was divided into quartiles: (1) very good

**Table 3.2: Profile of the reported political knowledge of Czechoslovak citizens prior to the Velvet Revolution, 1985–1986**

<i>Knowledge of individuals</i>	<i>%</i>	<i>Knowledge of organisations</i>	<i>%</i>
Andrei Sakharov (1921–1989): a Russian nuclear physicist, Soviet dissident and human rights activist	66	Charta 77 (1977–1992): informal civic initiative in communist Czechoslovakia	74
Jiří Pelikán (1923–1999): a Czech journalist and politician	61	Svědectví (1956–1990): a monthly Czech émigré magazine based in Paris	56
Pavel Tigrid (1917–2003): a Czech émigré journalist based in Paris and publisher of Svědectví	54	VONS (1978–1996): committee for the Defence of the Unjustly Prosecuted (established by Charta 77)	50
Ferdinand Peroutka (1875–1978): a Czech journalist and writer	43	Edice Petlice (1972–1990): a samizdat publisher directed by Ludvík Vaculík	47
Milovan Djilas (1911–1995): a Yugoslav (Montenegren) communist politician and theorist on socialism	35	Sixty Eight Publishers (1971–1994): a publishing house formed in Toronto by Josef Škvorecký and his wife Zdena Salivarová	47
Jan Čep (1902–1974): a Czech writer and translator	31	Infoch (1978–1989): a monthly bulletin of Charta 77	26
Milan Hodža (1878–1944): a Slovak politician, prime minister during the First Republic	31		
Prokop Drtina (1900–1980): a Czech lawyer and politician	NA		
Jiří Kolář (1914–2002): a Czech poet, writer, painter and translator	29		

Source: Strmiska (1986b: 262, 292–294)

Independent Survey of Public Opinion in Czechoslovakia, 1985–1986 (n=342), questions 34–48. Question text: ‘Do you know who are the following organisations, people and group? If you know it well write “1”, if you know it a little write “2” and if you do not know write “3”. (1) Milovan Djilas, (2) Andrei Sakharov, (3) Infoch, (4) Sixty Eight Publishers, (5) Svědectví, (6) Edice Petlice – Edice Expedice, (7) Prokop Drtina, (8) VONS, (9) Jan Čep, (10) Ferdinand Peroutka, (11) Pavel Tigrid, (12) Milan Hodža, (13) Jiří Pelikán, (14) Jiří Kolář, (15) Charta 77.’ Note that the percentages are the total number of correct answers. The mean correct response for all 15 political knowledge items was 46%, i.e. less than half of the respondents got all items correct even when allowed to give their own subjective evaluation.

knowledge (28%), (2) good knowledge (20%), (3) average knowledge (21%), and (4) below-average knowledge (31%) (Štrmiska 1986b: 293–294). Here a series of comparisons between group means were made using Chi<sup>2</sup> and Q statistics.

### *3.3.2 Knowledge differences: gender, age and education*

In the Independent Survey of Public Opinion (1986) conducted among Czechs, primarily those living in Prague, there was a gender gap in political knowledge where men knew more (9% on average) than women: a pattern that has been found in most political knowledge research. Among those who gave correct answers to questions, only one in five of this knowledgeable group was a woman. However, for two questions referring to salient themes such as Charter 77 this gender gap vanished.

There were also important differences ( $p \leq .05$ ) in knowledge across age cohorts. Specifically, the general level of knowledge among the young was lower ( $Q = -.57$ ). However, knowledge among the young was relatively high for contemporary movements or publications that interested them – e.g. Sixty-Eight Publishers, *Svědectví*, and Petlice. The exception here was Infoch, which was better known among the middle and older generations. For older public personalities such as Djilas, Čep, Peroutka and Hodža the level of knowledge among the young respondents was lower. For example, there was a 25% difference between old and young for Čep and a 60% differential in the case of Djilas.

Similar to the results found in the United States and Western Europe during the 1980s, there were pronounced differences in knowledge among Czech respondents to this unofficial survey on the basis of level of education. Firstly, university graduates dominated among those in the highest political quartile. Secondly, there were significant differences in the level of political knowledge across educational levels, except among those with ‘average knowledge’, where there were no significant differences on the basis of education.

### *3.3.3 The association between objective knowledge and ideology*

The positive association between level of factual political knowledge and identification with democracy was significant ( $p = .001$ ), but was considerably less so for communism ( $p = .01$ ) and liberalism ( $p = .02$ ). The adherence to different worldviews ranged from those with a religious affiliation to humanists (who refused to express a worldview), to non-Marxist socialists, and finally to a minority who favoured either Marxism or conservatism. The highest Q coefficients were observed for the association between level of political knowledge and those who labelled themselves as liberals or non-Marxist socialists. In contrast, those who identified with Marxism and communism had the lowest associations with political knowledge. It is impossible to evaluate these differences further because

the questions asked were not neutral, as they reflected the interests of those respondents with a 'non-conformist' orientation.

### *3.3.4 Knowledge of the political climate*

An item inquiring about how much support hypothetically the Czechoslovak Communist Party (KSČ) would secure in future multiparty elections (q.75) revealed that a majority of respondents (61%) predicted they would get at most 14%: this is remarkably close to the average level of support that has been achieved by KSČ's successor party, (the Communist Party of Bohemia and Moravia or KSČM), since 1992. This evidence indicates that Czechoslovak citizens' perceptions of the climate of political opinion in the mid-to-late 1980s were reasonably accurate, notwithstanding restrictions on news and opinion polling. This finding matches the comparative evidence for political knowledge in June 1967, prior to the Prague Spring reforms, that Czechs were reasonably well informed about domestic and international politics. Ironically, attempts by the communist government to restrict news may have had the unintended effect of motivating interest in some sections of the population.

Although, the evidence regarding objective political knowledge effects are limited for the mid-to-late 1980s, the general pattern for most survey questions is that a non-negligible number of Czechoslovak citizens in the late 1980s were (1) active in both formal and informal political activities and hence interested in change, (2) were distrustful of conventional party politics and (3) appear to have been relatively knowledgeable through critical consumption of both domestic and foreign sources of information. This political knowledge data from mid-to-late 1980s is important because it provides valuable evidence of the informational context before the fall of communism in late 1989.

## **3.4 Voter Knowledge during the First Democratic Elections, 1990**

Two of the central concerns with the first democratic elections in Czechoslovakia in June 1990 were (a) voters' competence to make informed party choices, and (b) public understanding of the electoral system and institutions of political representation whose main task for the following two years was root and branch reform. Fortunately, a series of political opinion polls were fielded during 1990 by the Association for Independent Social Analysis (AISA) and other survey companies. The AISA post-election quota sample survey fielded in November 1990 to a representative sample of 2,540 adults (18 years+) using face-to-face interviews asked six political knowledge questions.

The AISA (interpersonal) political knowledge questions are unusual in that they are not based on the respondent's correct answers to a series

of factual questions. Within the fluid context of 1990, where the entire Czechoslovak system of institutions and society were changing rapidly, it made little sense to ask factual questions because the facts themselves were evolving on a daily basis. Nonetheless, it was still fundamentally important to have some measure of the informational difficulties which Czech and Slovak citizens had in understanding electoral choices and the transformation process underway. For these reasons, AISA sensibly employed an interviewer-based evaluation of how difficult each respondent found specific batteries of survey questions.

The AISA post-election survey (Nov. 1990) was divided into six thematic sections where interviewers were asked at the end of the face-to-face interview to evaluate the respondents on the basis of three criteria: (a) did the interviewee have difficulty answering some questions, (b) were some sections of the survey troublesome for some of the respondents, and (c) were the answers to some sections of the survey less than trustworthy. The six political knowledge questions were derived from the following interviewer evaluations of the difficulty respondents' had in completing the six main parts of the face-to-face interview.<sup>18</sup>

- Political attitudes
- Functioning of the state and political system
- Problems between the Czech Republic and Slovakia
- Social and economic problems
- Values and lifestyle
- Personal data (socio-demographics)

In this chapter, question difficulty is interpreted as providing information about a respondent's ability to answer items due to a lack of information or knowledge. In other words, the battery of six difficulty indicators provides an interviewer-based measure of a respondent's level of political knowledge. An overview of the AISA questions evaluating how Czechoslovak respondents answered the survey questions is given in Box 3.1 where the general question of how to measure political knowledge in a new political system raises special challenges. A key, and often implicit, assumption in the survey-based measurement of factual political knowledge using a quiz format is the presence of a stable regime where there are 'political facts' to measure. This is not always the case and alternative methods for evaluating citizen knowledge have to be employed, as the text in Box 3.1 reveals.

It should be noted that interviewers felt that about two-thirds of respondents 'showed great interest' during the entire interview, a further one in five initially showed great interest but this enthusiasm declined

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18 Later, in Chapter 10, interviewer-based evaluations of respondents' level of knowledge will be explored in terms of evidence of the 'interpersonal' facet of political knowledge, where a person's reputation for being informed is important for understanding the broader impact of knowledge among social networks of citizens.

### Box 3.1: What to do when everyone is potentially a ‘know-nothing’? Evaluating public knowledge of a new political system

A key assumption in factual political knowledge measurement is that there are facts to measure. In new political systems the standard quiz approach to measuring political knowledge is inappropriate because current facts are out-of-date and new institutions and office-holders have yet to be created. In this context where all citizens are potentially ‘know-nothings’ because there are no political facts, it is necessary to use a non-fact-based method of evaluating political knowledge. In Czechoslovakia in 1990, an interviewer evaluation procedure was adopted to deal with this problem.

#### *Comparison of three dimensions of survey response*

<i>Section of the questionnaire evaluated by the interviewer</i>	<i>N</i>	<i>Difficulty %</i>			<i>Troublesome %</i>			<i>Untrustworthy %</i>		
		<i>Yes</i>	<i>No</i>	<i>DK</i>	<i>Yes</i>	<i>No</i>	<i>DK</i>	<i>Yes</i>	<i>No</i>	<i>DK</i>
Political attitudes	34	28	72	0	11	89	1	5	95	1
Functioning of state and political system	20	42	57	0	10	89	1	4	95	1
Problems between Czechs and Slovaks	38	21	78	1	6	94	1	4	95	1
Social and economic problems	50	26	73	1	9	91	1	5	94	1
Values and lifestyle	50	11	88	1	10	89	1	7	93	1
Socio-demographics	23	5	94	1	16	84	1	9	91	0

Source: AISA, post-election survey, November 1990, n=2540. Note that the column ‘N’ refers to the number of interviewer-based (interpersonal) political knowledge questions asked.

A limitation with using this operationalisation of political knowledge-based on interviewers’ evaluations is that a respondent’s ‘difficulty’ answering questions may not be due to a lack of knowledge, but could be due to being knowledgeable and understanding the complexity of political and social life. Hence the interviewers’ ‘difficulty’ evaluations could contain both ignorance and ambivalence, and therefore not be a pure measure of political knowledge. For this reason, AISA may have decided to implement three forms of interviewer evaluation: (1) difficulty with questions, to measure knowledge effects, (2) problem questions, to capture potential ambivalence or difficulty using the response options, and (3) untrustworthiness, to take account of respondents visibly not providing a sincere answer because of lack of interest or social desirability effects. The following table reveals that there were most problems with lack of knowledge and ambivalence.

The table above shows that those interviewed in November 1990 had greatest ‘difficulty’ with questions dealing with (1) reform of Czechoslovak state institutions, and (2) reform of the federal state. This fits with a ‘knowledge’ interpretation of the ‘difficulty’ evaluations. A series of Item Response Theory (2PL) models of the 6 difficulty items gives a profile that is similar to standard factual knowledge items throughout this book. Moreover, additional analyses of these data provide validating evidence that the ‘difficulty’ items may be reasonably interpreted as knowledge items. Further research shows that the items in the difficulty, troublesome and untrustworthy scales are reasonably inter-correlated (Cronbach’s alpha = .67, .66, and .72 respectively).

during the interview (with close to 230 questions), and the remaining one in six were not cooperative.<sup>19</sup> In short, there is good reason to think that the AISA survey (November 1990) provides reasonable estimates of political knowledge within the first year of the new post-communist system, and hence provides valuable insight into the nature and impact of knowledge during times of great political change.

#### *3.4.1 Level of knowledge in late 1990, opportunities and ability*

The ‘opportunities’ to become aware of political facts is explored in this book primarily in terms of position in society as indicated by socio-demographic characteristics. In the AISA (1990) survey there are no systematic age effects among Czechs and Slovaks. There was a gender gap where men had more knowledge than women and had less difficulty in completing the AISA post-election questionnaire. This gender difference is evident within both the Czech and Slovak subsamples and is a pattern that is present in almost all of the surveys containing political knowledge questions examined in this book. There are also important employment status and occupational differences in political knowledge among all respondents. This suggests that those with higher status had more ‘opportunities’ to access foreign political news and were better able to answer the knowledge questions asked. Alternatively, respondents with most schooling and higher occupational status were most knowledgeable due to their ‘motivation’ to follow political news. Taken together, Table A3.3 reveals that having political knowledge in late 1990 can be productively explained within the Motivation-Ability-Opportunity (MAO) framework: higher knowledge was associated with (1) the motivation to seek out this information in the first place, (2) the ability to understand this news, and (3) the opportunity to access information in the media and other sources.

#### *3.4.2 Level of objective knowledge and motivation effects*

Perhaps the key determinant of level of factual political knowledge is citizens’ motivation to seek out information. This desire to know more is often evident in attitudes toward politics and party preferences. The evidence from the AISA (1990) survey shows that satisfaction with politics had little association with higher levels of political knowledge because there was a roughly equal distribution of knowledge across all levels of satisfaction. The AISA question on political expectations is important because it reveals how respondents expected the Czechoslovak system of representation to develop during the first decade of democracy.

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19 These data are based on the results of Question 225: ‘During the interview the respondent (1) Showed great interest all of the time [65%], (2) Showed great interest at first but later it declined [21%], (3) Showed only moderate interest [13%], (4) Showed no interest [1%] and (5) No answer [1%].’

Those with low levels of objective political knowledge were more likely (32% vs 20% for all respondents: this difference of 12% is significant,  $p \leq .05$ ) to have a more pessimistic view and agree that with liberal democracy there would 'only [be] a change in officeholders'. Additional analysis work reveals that those with medium levels of knowledge were more optimistic that Czechoslovakia would have a 'long era of democracy ahead of it'. In contrast, most (a plurality) of the respondents with a high level of knowledge adhered to the most optimistic view: there would be 'steady progress to democracy' in Czechoslovakia in the 1990s and beyond.

Previous research has often found a positive association between a sense of external political efficacy and higher levels of political knowledge (e.g. Delli Carpini and Keeter 1996: 182–183; Mondak and Anderson 2004). In the Czech case, it appears that respondents with a low level of knowledge are over-represented among those with no sense of political efficacy. In contrast, those respondents with high levels of knowledge were present at a higher than average rate (48% vs 39%, a difference of +8% that is statistically significant ( $p \leq .05$ )) among those who had some political efficacy. These positive associations between knowledge and external efficacy were more strongly evident among Czechs.<sup>20</sup>

An examination of the link between objective knowledge and recalled vote choice in the first democratic elections in Czechoslovakia (June 1990) revealed some differences. For example, Czech and Slovak voters with low levels of knowledge were less supportive of political movements associated with the Velvet Revolution, i.e. Civic Forum and Public Against Violence respectively. Interpretations of this finding may range from the argument that less informed citizens may not have understood, may have been confused about, or may simply have been opposed to the goals of the intellectuals leading Civic Forum.

This finding suggests that there was confusion among the less knowledgeable during 1990 about the transformation process (see Lyons 2013). Less informed Czech citizens were also more likely to support small parties such as HSD-SMS who wanted regional autonomy for Moravia. In Slovakia, the less knowledgeable appear to have been (a) less enamoured with the left-wing Communist (KSC) and Social Democracy (SD) parties and (b) more in favour of the Christian Democrats (KDH) than their more knowledgeable fellow voters.

### *3.4.3 Level of political knowledge and attitudes toward constitutional reform*

One of the central political themes in the first democratic elections in Czechoslovakia in June 1990 was how the process of reforming political institutions would be undertaken. The first post-communist Czech-

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<sup>20</sup> This difference between Czechs and Slovaks may be explained in part by the difference in sample sizes: the Czech sample (N=1,704) was more than twice as large as the Slovak one (N=836).

oslovak Federal Assembly was given a two-year mandate to initiate major constitutional reform. By the following national elections in June 1992 living standards in Czechoslovakia had declined, unemployment had increased, and the Czech and Slovak parts of the federal system had become more distant or autonomous (see Jehlička, Kostecký and Sýkora 1993: 251).

These fissiparous socio-economic and political trends are important for understanding the relationship between citizens' level of political knowledge and constitutional preferences in late 1990. With the simultaneous transformation of all spheres of life it is not so surprising that Table 3.3 indicates that differences in constitutional preferences are not strongly linked with level of political knowledge. This lack of factual knowledge effects may have stemmed from the fact that everyone was equally confused about the scope and speed of change, or all citizens were similarly aware of the profound changes taking place.<sup>21</sup>

Few knowledge effects are evident in public preferences for (a) constitutional priorities, (b) constitutional independence, (c) who should arbitrate on the dissolution of the Czechoslovak federation, (d) unilateral or joint dissolution power, and (e) preference for dissolution. Evidence of minimal knowledge effects in Table 3.3 may reflect two observationally equivalent outcomes. First, the uncertain and complex nature of the relationship between Czechs and Slovaks meant that nobody was informed. Consequently, there are no information effects resulting from collective ignorance. Second, there was considerable equivocation ('speaking with two voices'), ambivalence (strong internalised conflict about an issue), and uncertainty (insufficient information to make a choice) among all Czechs and Slovaks who found it difficult to decide how to proceed because they could see both sides of all the arguments. As a result, there were no knowledge effects because most citizens were informed and were divided over what to do next.

In order to tease out these relationships, more detailed analyses would be required to test for evidence of ambivalence, equivocation and uncertainty, perhaps in a manner similar to that employed by Alvarez and Brehm (2002), who show how values and information together influence response stability. These scholars also show, with evidence from the United States, that policy issues characterised by conflicting values (i.e. ambivalence and equivocation) when combined with higher levels of knowledge lead to higher response variability or opinion instability. Conversely, when political values are not strongly associated with issues (due to uncertainty) then more information leads to lower response variance or opinion stability.

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21 With regard to amending the Constitution of Czechoslovakia Socialist Republic (*Ústava Československé socialistické republiky*) enacted in 1960, better informed Czechs and Slovaks favoured enacting constitutional reforms through parliament. In contrast, low knowledge respondents preferred having referendums.

**Table 3.3: Association between constitutional preferences and level of political knowledge in the first democratic elections, 1990**

<i>Constitutional preferences</i>	<i>Czechs</i>				<i>Slovaks</i>			
	<i>N</i>	<i>Low</i>	<i>Med</i>	<i>High</i>	<i>N</i>	<i>Low</i>	<i>Med</i>	<i>High</i>
<i>How should the constitution of 1960 be changed?</i>								
By referendum	723	<b>24</b>	43	<b>34</b>	487	<b>24</b>	34	42
By parliament	980	<b>18</b>	40	<b>42</b>	347	<b>18</b>	38	44
<i>Constitutional priority?</i>								
Two national constitutions	745	19	44	38	585	21	36	43
Federal constitution	943	21	39	40	244	23	34	42
<i>Put right for national independence into constitution?</i>								
Yes	721	<b>23</b>	39	38	454	21	38	41
No	972	<b>18</b>	43	40	378	21	34	45
<i>Who decides dissolution of federation?</i>								
Members of parliament	461	19	45	36	214	24	36	41
Citizens in a referendum	1235	20	40	40	617	21	36	43
<i>Dissolution decision?</i>								
One republic is sufficient	429	19	39	41	353	20	36	44
Both republics must agree	1271	20	42	38	478	23	36	42
<i>Dissolution of Czechoslovakia?</i>								
Definitely yes	87	20	46	34	62	23	42	35
Rather yes	110	27	48	<b>25</b>	72	22	29	49
Rather no	399	23	38	39	196	24	36	40
Definitely no	1104	<b>19</b>	41	40	503	20	36	44
<i>Total sample</i>	<i>1704</i>	<i>20</i>	<i>41</i>	<i>39</i>	<i>836</i>	<i>22</i>	<i>36</i>	<i>42</i>

Source: AISA, Czechoslovak post-election survey, November 1990, n=2540 (i.e. 1704 + 836)

Note that estimates in bold indicate that the number is statistically significantly greater ( $p \leq 0.05$ ) than the total estimate given at the bottom of the table. Conversely, estimates in bold and underlined indicate below average are significantly lower ( $p \leq 0.05$ ) than the total estimate for the entire sample. Level of political knowledge is divided into three groups, i.e. 'Low', 'Med' (medium) and 'High'. The subsample sizes are given in the columns labelled with 'N'.

### 3.5 Objective Political Knowledge Prior to the Velvet Divorce

Although a considerable amount of research on post-communist attitudes was undertaken during the 1990s, very few publications focussed on topics relating to citizens' level of political knowledge. In part this was due to the scholarly belief that post-communist citizens were not strongly informed about politics, and there was little point in demonstrating this fact. Second, much of the post-communist political attitude research was comparative and it is difficult to devise standard factual political knowledge items that would work in an equivalent way across all of Central and Eastern Europe. For example, the New Democracy Barometer surveys (NDB, 1991–1998) and the New Europe Barometer surveys (NEB, 1991–2007), contain no batteries of factual political questions (note, Lyons 2012: 153–155). This is surprising because a key theme in the post-communist transition research is political learning and the acquiring of knowledge (Rose, Mishler and Munro 1998).

The 'Party Systems and Electoral Alignments in Eastern Europe' comparative project fielded annual surveys between September 1992 and January 1996 in the Czech Republic, Hungary, Poland and Slovakia (see Lyons 2012: 170–171). In some of these surveys, such as the Czech wave for September 1992, there are two factual knowledge questions inquiring about (a) which parties were participating in the government and (b) which parties were in the opposition. The respondents were asked to select up to a maximum of four government (i.e. ODS, ODA, KDU-ČSL and KDS) and four opposition parties (i.e. LB, ČSSD, LSU, SPR-RSČ, HSD-SMS, etc.). It is possible to combine these two knowledge items, as the correlation between the two questions is reasonably high ( $r=.64$ ), to create a simple nine-point (0–8) summated knowledge scale.<sup>22</sup> A cross-tabulation of mean knowledge scores with a selection of Motivation-Ability-Opportunity (MAO) model variables shows that within three years of the fall of communism the correlates of knowledge with MAO variables were broadly similar to that observed in the United States and elsewhere.

The general patterns are that those citizens with higher levels of motivation and ability and greater opportunities to access political news (with greater experience denoted by age, being male and being employed) have higher levels of knowledge of which parties were in government or opposition in late 1992. These data are interesting because they provide a portrait of Czech citizens' knowledge of politics on the eve of the dissolution of the Czech and Slovak Federative Republic. Whether or not Czechs and Slovaks were truly aware of an agreement between Václav Klaus and Vladimír Mečiar (the Czech and Slovak premiers respectively) is not known, as there were no survey questions asked in 1992 to test for this knowledge within Czechoslovak public opinion.

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<sup>22</sup> This is an unusual type of factual knowledge scale and is rarely used. However, this scale does have the merit in comparative research of asking a simple and consistent pair of questions that are comparable across countries.

*Citizen knowledge about the 'velvet divorce' (autumn 1992)*

One of the key political events after the fall of communism in Czechoslovakia was the dissolution of the Czech and Slovak Federative Republic (CSFR) in late 1992. The process by which the dissolution of Czechoslovakia took place was, and remains, controversial. This is because it was decided by the leaders of the parties that won the most votes in the Czech (Václav Klaus, Civic Democrats or ODS) and Slovak (Vladimír Mečiar, Movement for a Democratic Slovakia or HZDS) parts of the simultaneous federal and regional (national councils) elections of June 5–6, 1992. Calls for a referendum during 1992 were ignored for strategic reasons.<sup>23</sup> This is because public attitudes on the 'federal question' were mixed with evidence in favour of both retaining some form of (con) federal arrangement and independence for both Czechs and Slovaks. In essence, the Czechoslovak public was ambivalent about what to do and in effect left the final decision to the new political leaders.

An Association for Independent Social Analysis (AISA) survey fielded in May 1992, prior to the general election, found that both Czechs and Slovaks thought the federal system favoured the other. For example, more than four in six Slovaks (70%) thought that Czechs were more successful in the CSFR, while about one in six (16%) Czechs agreed that they did best. Such mutual suspicion had existed since the 1980s and may be traced to the late 1960s and back further to the First Republic (1918–1938). This did not mean that there were bad intergroup relations between Czechs and Slovaks. An Institute for Public Opinion Research (Institut pro výzkum veřejného mínění, IVVM) survey conducted in late May 1992 revealed that close to two in three Czechs and three in four Slovaks thought relations between both groups were 'rather good' or 'good'. In effect, there were no strong public preferences toward maintaining or dissolving the CSFR, and this gave party leaders an agenda setting opportunity.

The last federal election campaign held in May 1992 was dominated by (a) the transformation to a mixed free-market economy, (b) social policy and how to fund transfers to those who were losers in the marketisation process, and (c) greater autonomy or independence in the Czech and Slovak parts of the CSFR. During the campaign there were clear divisions in the Czech and Slovak parts of the federal elections. Wealthier Czech voters wanted to preserve the CSFR and supported the right-wing policy agenda of ODS in alliance with the Christian Democratic Party (KDS), the Civic Democratic Alliance (ODA) and the Christian Democratic Union (KDU-ČSL).

In contrast, poorer Slovaks did not favour a rapid privatisation of the economy, fearing a sharp increase in unemployment and poverty,

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23 Survey results indicated that 78% of Czechs and 66% of Slovaks favoured having a referendum to decide the federal question. More than two-and-a-half million signatures had been gathered among Czechs supporting the holding of a referendum. This initiative was ignored (Mathernova 1992: 496).

and hence wanted greater autonomy in directing economic policy in Slovakia. The HZDS party promised to gain Slovak sovereignty if successful in the election. In the election on June 5–6 there was high turnout (85%), where Czech voters supported right-wing policies and reform of the CSFR while Slovak voters in contrast endorsed leftist parties and independence. Communist parties did well by campaigning for government intervention into the economy and retention of the CSFR.

The election results were problematic at the federal level because they showed that little compromise was possible across the Czech and Slovak divide on the economic, social and federal issues (for details, see Shabad et al. 1998; Kraus and Stranger 2000). Consequently, a fortnight after the election Klaus and Mečiar, as the leaders of the most popular Czech and Slovak parties, agreed on an interim caretaker government that would pave the way for dissolution of the CSFR by the end of 1992. In this post-election situation where two party leaders had decided to dissolve the state and disband the political institutions they had been elected to, the two key questions were: (a) what was Czech and Slovak public opinion toward dissolution, and (b) what was their knowledge of which parties supported dissolution?

It is important, in hindsight, to remember that during the final months of 1992 Czech and Slovak citizens could on a daily basis read, see and hear in the media the plans for dissolving the CSFR. An IVVM survey, fielded in November 1992, showed that half of the Czech respondents (43% were opposed to dissolution and 7% had no opinion) and four in ten Slovaks (with 49% against a breakup and 11% had no opinion) supported these ‘rapid dissolution’ negotiations. Other surveys during this period showed similar divisions in Czech and Slovak public opinion. The complexity of Czech and Slovak attitudes is evident in the following survey results derived from questions fielded by AISA in November 1992.

- Support for the existing CSFR state: Czechs (30%) vs Slovaks (26%)
- A unitary Czechoslovak state: Czechs (39%) vs Slovaks (20%)
- Cooperative federalism as in Germany: Czechs (20%) vs Slovaks (6%)
- Confederation: Czechs (4%) vs Slovaks (27%)
- Full independence: Czechs (5%) vs Slovaks (14%)

A similar set of factual questions fielded seven months earlier in March 1992 yielded similar results, suggesting a stable public opinion climate. These data reveal that a majority of Czech and Slovak public opinion did not favour a rapid and complete dissolution of the CSFR state on January 1, 1993. Did Czechs and Slovaks in the autumn of 1992 understand that ODS and HZDS were both in favour of a ‘velvet divorce’?

Fortunately, the autumn 1992 wave of the ‘Party Systems and Electoral Alignments in Eastern Europe’ international survey facilitates comparing how aware people were of which parties supported creating independent Czech and Slovak states by late 1992. Respondents were

**Table 3.4: A comparison of mean levels of political knowledge and awareness of Czech parties' support for the 'velvet divorce' in late 1992**

Parties and positions	Parties who supported a rapid dissolution of Czechoslovakia (CSFR)									Parties opposed		
	First mention			Second mention			Third mention			First mention		
	M	N	SE	M	N	SE	M	N	SE	M	N	SE
<i>Support dissolution:</i>												
ODS, ODS-KDS	4.6	558	0.1	5.4	49	0.2	5.1	11	0.6	3.9	9	0.5
ODA	5.0	56	0.2	5.5	265	0.1	5.7	17	0.4	3.0	2	1.0
KDU-ČSL	7.0	1	NA	4.9	16	0.5	6.2	84	0.1	3.9	16	0.4
HSDMS, CMSS	5.3	3	0.3	2.3	3	1.5	6.0	1	NA	3.3	4	1.3
LSU	6.0	1	NA	NA	0	NA	5.5	4	0.6	5.3	49	0.2
SD-LSNS, SD, OH	NA	0	NA	6.0	2	1.0	5.4	7	0.6	3.6	5	0.5
KAN	NA	0	NA	7.0	1	NA	5.8	6	0.7	NA	0	NA
<i>Oppose dissolution:</i>												
LB, KSČ	3.8	5	0.7	4.0	1	NA	NA	NA	NA	4.7	329	0.1
ČSSD	NA	0	NA	2.5	2	0.5	6.0	4	0.4	5.0	141	0.1
SPR-RSČ	3.3	8	0.7	4.9	7	0.3	5.0	2	2.0	4.5	29	0.3
HZSS	NA	0	NA	NA	0	NA	NA	0	NA	1.0	1	NA
ROI	NA	0	NA	NA	0	NA	NA	0	NA	1.5	2	1.5
<i>No position:</i>												
Other party	3.3	61	0.3	3.8	31	0.3	3.7	7	1.0	3.0	16	0.5
Don't know	1.8	98	0.2	3.0	15	0.6	3.7	23	0.5	2.1	156	0.1
No answer	2.6	19	0.4	3.2	422	0.1	3.8	647	0.1	3.7	51	0.3
Refused	3.2	5	1.1	4.0	1	NA	5.0	2	1.0	3.2	5	1.1
<i>Total</i>	<i>4.1</i>	<i>815</i>	<i>0.1</i>	<i>4.1</i>	<i>815</i>	<i>0.1</i>	<i>4.1</i>	<i>815</i>	<i>0.1</i>	<i>4.1</i>	<i>815</i>	<i>0.1</i>

Source: Party Systems and Electoral Alignments in Eastern Europe Survey, Czech wave, n=815, STEM, September 1992.

Questions 12 and 13 measured level of political knowledge while questions 17t, 18t and 18s provided information about respondents' awareness of parties' positions on the dissolution issue.

Note that 'M' refers to the arithmetic mean, 'N' is the number of cases, and 'SE' is the standard error. The mean estimate refers to level of political knowledge for a specific subgroup, e.g. those who first mentioned ODS as a supporter of dissolution. This 9-point knowledge scale has a range of 0–8 with a sample mean of 4.1 and is normally distributed. The grey shading refers to the main knowledge effects of interest in this chapter.

*Parties that supported dissolution*

ODS, ODS-KDS: Civic Democrats & Christian Democrats [GOVT: 1992–1996];  
 ODA: Civic Democratic Alliance [GOVT: 1992–1996]; KDU-ČSL: Christian Democratic Union – Czechoslovak People's Party [GOVT: 1992–1996]; HSDMS,

CMSS: Movement for Self-Governing Democracy of Moravia and Silesia; LSU: Liberal Social Union; SD-LSNS, SD, OH: Democratic Party, Citizen Forum; KAN: Club of Committed Non-Party Members

*Parties that opposed dissolution*

LB (Left Block) or KSČ (Communist Party of Czechoslovakia); ČSSD: Czech Social Democratic Party; SPR-RSČ: Republicans of Miroslav Sladek; HZSS: Movement for Social Justice; ROI: Roma Citizens Initiative

asked to name three parties that supported immediate dissolution of Czechoslovakia and one party that opposed such a plan. According to the official Federal Assembly roll call results for November 25, 1991, it is possible to define which parties supported dissolution.<sup>24</sup> In this chapter the focus is on the Czech party system. Dissolution by early 1993 was supported by all three government parties: (1) ODS / ODS-KDS – Civic Democrats and Christian Democrats; (2) ODA – Civic Democratic Alliance; and (3) KDU-ČSL – Christian Democratic Union – Czechoslovak People's Party. There also appears to have been support in varying degrees from some smaller parties: HSDMS and CMSS – Movement for Self-Governing Democracy of Moravia and Silesia and Czech and Moravian Central Union; LSU – Liberal Social Union; SD-LSNS / SD / OH – Free Democrats - Liberal National Social Party, Citizen Forum; and KAN – Club of Committed Non-Party Members.

The results in Table 3.4 show that those respondents with higher levels of objective (factual) political knowledge were more aware of where those parties participating in government (ODS-KDS, ODA, KDU-ČSL) support for dissolution of the CSFR in early 1993. Almost, seven in ten of those interviewed mentioned that Václav Klaus's ODS party was in favour of a 'velvet divorce' and the average level of political knowledge for this subgroup was 4.6: this is significantly higher ( $p < .05$ ) than the overall mean knowledge score of 4.1 for all respondents, and the knowledge level of those who thought ODS opposed dissolution, who had a mean knowledge score of 3.9. Alternatively, for those respondents who correctly associated Left Bloc (LB) and the Communist Party (KSČ) with opposition to dissolution the mean knowledge score was 4.7, while the sample mean knowledge score was 4.1: the difference in means of 0.6 points is significant ( $p < .05$ ).

Comparison of knowledge differences in Table 3.4 is limited by the fact that for many party position choices the number of respondents is very small. If we focus only on the mean levels of knowledge for parties with greater than 50 respondents then the general conclusion is that those who correctly linked a party with support or opposition to dissolution of Czechoslovakia had higher levels of knowledge. When asked, those respondents with higher levels of political knowledge rat-

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<sup>24</sup> This information is available from <http://www.sds.cz/docs/prectete/10let/dokonano.htm>.

ed the dissolution issue more highly on a five-point scale (low to high importance).

Overall, it is reasonable to conclude that Czech voters in 1992 were aware that support for ODS-KDS was a vote for rapid liberalisation of the economy, support for social redistribution policies such as early retirement for losers in the transition process, and support for dissolution of the CSFR. In sum, more informed voters did recognise that how they voted in the June 1992 election would set the agenda for dissolving the CSFR.

### **3.6 Political Knowledge across Four General Elections: 2002–2013**

The most detailed data sets for exploring Czech citizens' level of objective political knowledge were the post-election surveys fielded directly after the Lower Chamber Elections of 2006, 2010 and 2013. In these three datasets there are the largest numbers of explanatory variables available for exploring the determinants of political knowledge. A brief examination of the overall response patterns was shown earlier in Chapter 2. Within that chapter the top part of Figure 2.2 showed that some respondents found some of the six political quiz questions easier than others, and there was variation in the level of 'false' knowledge, where some of those interviewed were misinformed. Moreover, the number of respondents unwilling to give any answer by responding 'don't know' also varied considerably across the six questions. In general, knowledge questions dealing with 'foreign affairs' were more difficult for respondents than items dealing with local or national political facts.

Figure 2.2 also showed that the greatest factual knowledge is of politics that are closer to the citizen, such as an awareness of the elections to the Regional Assemblies (or *Zastupitelstvo kraje*, which have taken place every four years since 2000) and of the fact that the Czech Republic came into existence in 1993 and not 1989. In contrast, Czech citizens were much less informed about technical matters such as the electoral rules used in lower chamber elections and aspects of international politics related to features of the European Union (EU) and the United Nations (UN).

#### *3.6.1 Trends in objective knowledge from four post-election surveys, 2002–2013*

Fortunately, it is possible to explore the correlates of factual political knowledge in a series of four post-election surveys fielded over the last two decades. In later chapters of this book there will be a more systematic study of the determinants of political knowledge using the Motivation-Ability-Opportunity (MAO) model discussed in the introductory chapter. In this section, the goal is to highlight some key differences in the level of political knowledge in 2002, 2006, 2010 and 2013 across a range of subgroups defined in terms of attitudes (indicating motivation

to be interested in politics), education (a proxy measure for cognitive ability) and socio-demographic factors (highlighting the importance of opportunities to access political messages).

A graphical presentation of differences in attitudes associated with being motivated to participate in politics (i.e. party attachment, left-right position and turnout) and opportunities to become informed about public affairs (sex [male], age [older], and education [higher]) are shown in Figure 3.2. Here it is immediately apparent that there are broadly similar trends across the four post-election surveys examined where those with less motivation (non-partisans/ideologues and voters) and opportunity (women, young and less schooled) to become familiar with political news are less knowledgeable.

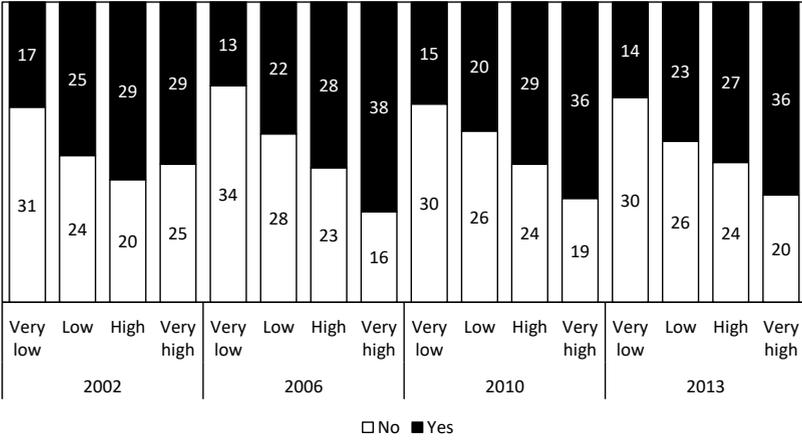
Now, if we look a little deeper and compare pairs of elections (i.e. 2002 & 2006 and 2010 & 2013) the post-election survey data show that respondents who had more definite attitudes tend to have higher levels of political knowledge. This motivation effect is evident for those who had party attachment, thought voting and who is in government matters, are right-wing and turned out to vote in the previous lower chamber elections. As expected, those with greater cognitive ability, measured as level of education, had significantly ( $p \leq .05$ ) higher than average levels of knowledge. This ability, or education effect, is more strongly evident in 2006, 2010 and 2013.

Turning our attention now to the opportunity to access political messages, and hence acquire political knowledge, it is immediately obvious that there was a gender gap. Differences in knowledge across age cohorts were not especially strong and tended to be election-specific, suggesting that access to political information for the young and old was essentially the same (except for the youngest birth cohort who often had significantly below-average levels of political knowledge). Those who were married and employed knew significantly more than average about politics, while the unemployed and students were significantly less informed than all others. The highly secular nature of Czech society means that frequency of religious attendance had no association with differences in level of political knowledge.

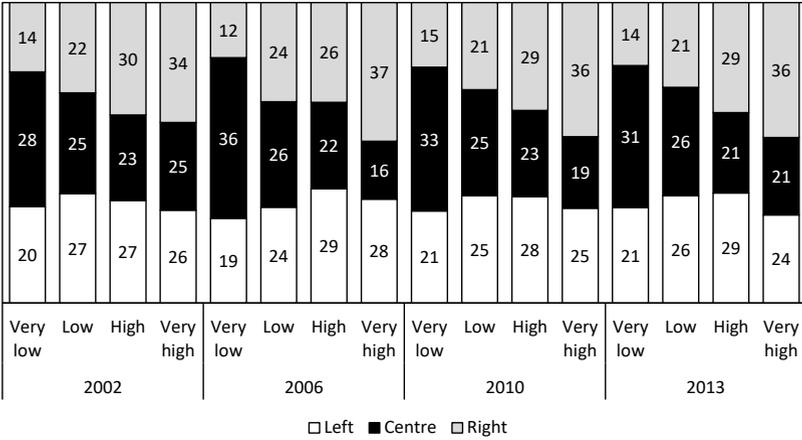
To sum up, the post-election survey evidence presented clearly shows that between 2002 and 2013 factual or objective political knowledge was not evenly distributed within Czech society. Those subgroups that were more *motivated*, had greater *ability* to understand and use political facts and had greater *opportunity* to access to political messages were the most informed. Overall, differences in political knowledge appear to be more strongly associated with motivation to learn about politics rather than position in society. The presence of a knowledge gap based on opinionation, education, gender, youth and employment is consistent with research undertaken in many countries over decades (Dimock and Popkin 1996; Gordon and Segura 1997; Grönlund and Mliner 2006).

**Figure 3.2: Level of political knowledge for some key attitudinal and socio-demographic attributes, 2006, 2010 and 2013**

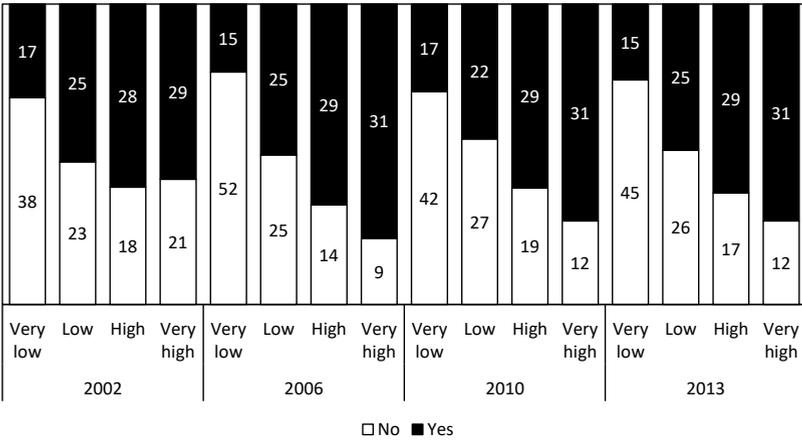
*Party attachment*



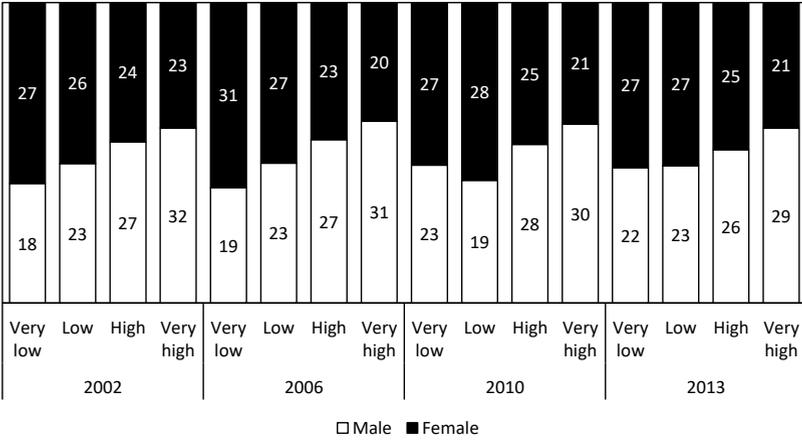
*Left-right orientation*



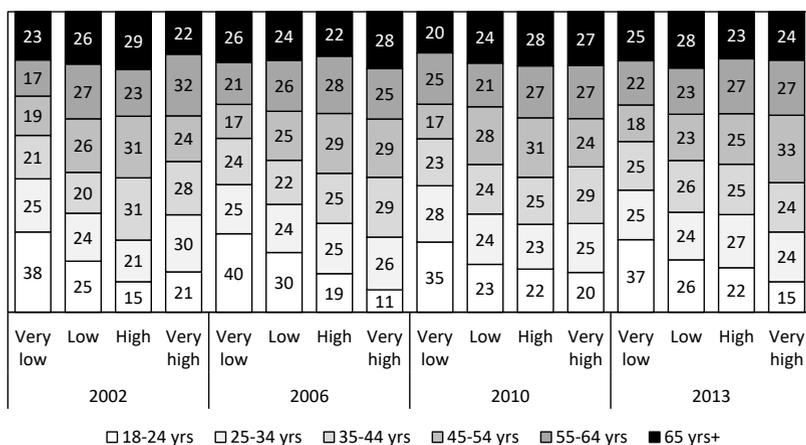
*Election turnout*



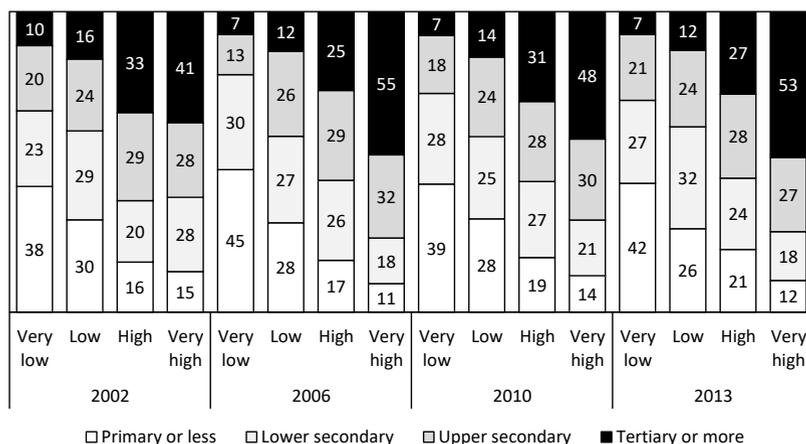
*Sex (gender gap)*



### Age cohort



### Education



Source: Czech National Election Surveys, 2006, 2010 and 2013

Note that this figure (similar to Figure 3.1) shows how level of political knowledge, operationalised as a (2PL IRT) scale divided into quartiles (very low, low, high, and very high), varies on the basis of key socio-demographic and attitudinal indicators. In a specific year the percentages for a specific group (e.g. 18-24 yrs) sum to 100% subject to rounding error. The column bars do not sum to 100%. A later chapter will show that most of these factors are important determinants of level of factual political knowledge. Note also that these estimates are unweighted.

## Conclusion

This chapter has shown that in the Czech Republic there are important opportunities to examine objective or factual political knowledge among citizens over a half century period with the first individual-level survey data (which is available for analysis) coming from June 1967. There are currently close to twenty nationally representative sample surveys that contain batteries of political quiz questions allowing for the construction of political knowledge scales. Other questions could also be used to construct measures of objective political knowledge. For example, the Institute of Sociology's Public Opinion Research Center (CVVM) frequently asks a question in its monthly omnibus survey asking the Czech public to evaluate public figures, where one response option indicates if the respondent has no knowledge of the politician. This question could in theory be used to construct a 'knowledge of current politics' scale.

This chapter has also shown that currently most survey-based studies of factual political knowledge have been undertaken in academic post-election (lower chamber) surveys from 1996 onwards as part of the international Comparative Study of Electoral Systems (CSES) research programme. As a result, the study of political knowledge has followed the conventional approach of employing a short quiz format to examine electoral participation and party choice. More generally, this approach to examining objective political knowledge within political science assumes that 'declarative knowledge' (or the ability to answer factual questions) rather than 'procedural knowledge' (which is the ability to do a specific task such as figure out which party best represents a person's policy preferences) is the best indicator of citizens' ability to understand politics.

This preference within political science, as noted in the debate outlined in the introductory section of this chapter, for a declarative conception of political knowledge reflects the near universal use of mass surveys to evaluate citizens' level of political knowledge and its correlation with other political attitudes and behaviour, such as turnout and party choice. Moreover, emphasising the role of declarative knowledge fits with specific cognitive theories of learning, such as Schneider and Shiffrin's (1977) influential 'dual processing theory' of human learning later developed and popularised by Daniel Kahneman (2011), where declarative knowledge is assumed to precede procedural knowledge. In other words, knowledge of how to vote correctly depends on first knowing basic facts about voting and parties.

In contrast, procedural knowledge is not readily amenable to survey-based measurement because this form of knowledge is often tacit in nature where individuals are not able to fully explain why they know something or have some skill. Procedural knowledge is usually studied in disciplines such as psychology and behavioural economics using an experimental rather than an observational (survey-based) approach (Camerer and Hogarth 1999: 9–10). Within what are called 'emergence

theories of learning' it is argued that procedural knowledge can develop in the absence of declarative knowledge because complex skills such as selecting correct candidates can be performed (e.g. through facial evaluations of competence), but citizens are not able to explain clearly how this task was completed (note, Ballew and Todorov 2007; Antonakis and Dalgas 2009; Armstrong et al. 2010).

This debate motivates operationalising political knowledge in different ways: (a) subjective, (b) interpersonal, (c) objective or declarative and (d) implicit or procedural (see Figure I.3). All of these operationalisations are explored in various parts of this book, such as Chapters 6 and 9. The exploration of citizens' political knowledge using declarative and procedural knowledge perspectives is an area of active research. The study of procedural political knowledge is fundamentally important in providing a more accurate picture of citizens' political abilities, and this has key implications for the theory and practice of democratic (and other) forms of governance. At present, the evidence from declarative knowledge measurement using factual questions in political science is negative and pessimistic regarding the effectiveness of collective decision-making (Caplan 2007a; Somin 2013; cf. Oppenheimer and Edwards 2012).

The focus in this chapter on (1) mapping out the sources of survey evidence on political knowledge in the Czech Republic and (2) providing an informal overview of the correlates of knowledge forms the basis for the study of the determinants of political knowledge presented later in Chapter 5. However, in Chapter 4 it is important first to examine in some detail how respondents answer factual political knowledge questions in mass surveys in order to understand how to interpret these data correctly.

# Chapter 4: Survey Response Style and Objective Political Knowledge Measurement

The assumption is generally made, and validated as well as possible, that what the test measures is determined by the content of the items. Yet the final score of the person on any test is a composite of effects resulting from the content of the item and effects resulting from the form of item used. A test supposedly measuring one variable may also be measuring another trait which would not influence the score if another type of item were used. In this definition, 'form' includes the form of statement, the choice of responses offered, and the directions, since all of these are part of the situation to which the person reacts.

Lee J. Cronbach (1946: 475)

Whatever our intentions, the attitude questionnaire is approached as though it were an intelligence test, with the 'don't know' and the 'can't decide' confessions of mental incapacity.

Philip E. Converse (1970: 177)

## Introduction

A central assumption in the measurement of objective or factual political knowledge is that the way in which the survey questions are asked does not influence the level of knowledge measured. Much research suggests this assumption is invalid. The answers given in survey interviews are often shaped by four factors: (1) individuals' willingness to give answers, (2) interviewees' propensity to respond that they 'don't know', (3) a person's tendency to guess answers if they are uninformed, and (4) an individual's inclination to give factually incorrect answers when they are 'confidently' misinformed. This chapter will argue that the relative influence of these four factors depends not only on individual characteristics but also on national cultural values.

Within this chapter the focus will be on how national cultures are linked with the survey response style for objective or factual political knowledge questions. Using the Images of the World in the Year 2000 survey fielded between 1967 and 1970 among 15 to 40 year olds in nine countries, this chapter examines how these young respondents living in selected Eastern and Western European countries answered a standard set of political knowledge questions about the membership of sixteen countries in international military alliances. Here one might expect that citizens living under communist regimes would have been less informed due to less access to objective news about international affairs and media censorship. This is not true. There is no simple association between average level of knowledge in the nine countries

examined and political regime type, economic system and level of technological development.

The national variation in political knowledge observed must be due to some other factor such as differences in how people answer questions during survey interviews. Why are there dissimilarities in survey response style? To answer this question, this chapter will explore whether differences in response style are associated with specific national cultural characteristics.

The argument put forward in this chapter is structured into four parts. Section 1 outlines some theoretical expectations regarding systematic differences in the relationship between political knowledge and survey response style. This is followed in Section 2 by a set of hypotheses demonstrating how cultural differences highlighted by Hofstede (1980, 2001, 2010) might influence survey response style for political knowledge questions. Section 3 outlines a brief description of the survey data used in this chapter and this is followed in Section 4 with a presentation of the empirical results. The concluding section reflects on how knowledge measurement in mass surveys reflects national cultures.

#### **4.1 Survey Response Style and Political Knowledge Measurement**

Philip E. Converse (1964b: 20–21), in an early essay on the meaning of questions in comparative survey research, highlighted an important point which is worth quoting in full because of its far-reaching implications.

Rather, it is our contention that even in the best of current public opinion measurement, two circumstances conspire to devalue the meaningfulness of much attitudinal data. These two circumstances may be simply stated. First, despite mountains of evidence indicating that the broad public is extremely ill-informed, we as investigators persist in developing theoretical problems and content questions which drastically overestimate the degree to which the public is informed. Second, when the average respondent is faced with an opinion question which depends on objects or relations which are quite unfamiliar to him, he is loath to say 'I have no opinion – I had never thought about these things before you came and never will again after you leave.' Instead, he has an unsettling habit of conjuring up an 'agree' or 'disagree' which relieves him of the unpleasantness of admitting ignorance. These two tendencies on the part of investigators and the investigated complement each other nicely, of course, and produce large quantities of data in our archives which are either dilute in meaning or simply misleading. That respondents approach opinion interviews as though they were intelligence tests is perhaps not surprising.

If one accepts Converse's (1964b) view that the survey response strategy used by most respondents is one where guessing is likely to be a strong feature of the knowledge data generated, this raises the question of what to do. Within the field of education testing there has been a similar long-standing debate about (a) the use of 'right scoring' by simply

counting the number of correct answer, or (b) employing ‘formula scoring’ where the number of correct answers is weighted to take account of guessing correctly.

There is no definitive answer to this question as scholars have found evidence supportive of both approaches (e.g. ‘right scoring’ Edgington 1965, Little 1966, Bar-Hillel et al. 2005; and ‘formula scoring’ Cureton 1966, Davis 1967; and others such as Frary (1988) favour using both approaches in different test situations). If political knowledge questions are to have face validity then some correction should be made for guessing. This is because a survey response strategy of guessing is a form of measurement error that should be minimised. This form of measurement error may be reduced by explicitly encouraging respondents not to guess answers, but to honestly admit they do not know the answer (note, Diamond and Evans 1973: 183–185; Luskin and Bullock 2011). However, most surveys do not have such instructions and in fact some scholars have advised that respondents be encouraged to guess rather than reply ‘don’t know’ (Mondak 1999, 2001; Mondak and Davis 2001; Mondak and Anderson 2004).

#### *4.1.1 Survey response style and measurement of objective political knowledge*

The profile of the answers given to the battery of sixteen factual knowledge questions in the Images of the World in the Year 2000 survey indicates that citizens interviewed in the nine countries examined may have employed contrasting ‘response styles’. What this means is that factors other than knowledge of military alliance membership during the Cold War also influenced respondents’ answers. This methodological effect has been the subject of research since mass surveying began in the 1930s (Cronbach 1942, 1946; Couch and Keniston 1960). The most common examples of response style effects are (1) ‘extreme responses’, (2) picking the ends of scales, and (3) ‘acquiescent bias’ where respondents give the same answer to all questions regardless of content. Cronbach (1946: 476) defined ‘response sets’ in the context of testing students as follows:

A response set is defined as any tendency causing a person consistently to give different responses to test items than he would when the same content is presented in a different form. This is a theoretical rather than a practical definition, since it is never possible wholly to separate the content of an item from its form. Yet many acquiescent students who fail a false item would pass the item had it been presented as a true statement. In this definition, ‘form’ includes the form of statement, the choice of responses offered, and the directions, since all of these are part of the situation to which the person reacts.

There is an extensive research literature highlighting the importance of personal and cultural characteristics for explaining observed differences

across countries and respondents resulting from contrasting response styles and strategies (Harzing 2006; Morren et al. 2012; He et al. 2014). Within the study of political knowledge the study of response styles has focussed on respondents' propensity to (a) guess answers rather than admit a lack of knowledge and (b) select the 'don't know' or 'no answer' option out of a lack of confidence. These response style effects may result in 'guessers' appearing more knowledgeable than is really the case, and those interviewees lacking confidence (such as women) looking less informed.

#### 4.1.2 A misinformation index of survey response effects

In the original *Images of the World in the Year 2000* research conducted between 1967 and 1970 evidence of national differences in response styles was observed and noted in the resulting book (Ornauer et al. 1976). In order to make some estimate of the differential propensity to guess among national samples, two simple estimators were developed by the research team behind *Images of the World in the Year 2000* study to analyse the military alignment knowledge questions. The 'Guessing ratio' ( $G_i$ ) for each item  $i$  was estimated as the percentage of incorrect answers divided by the sum of incorrect plus 'don't know' and 'no answer' (DK/NA) responses (Sicinski 1976: 125, 154–155).<sup>25</sup> In other words, guessing is defined as the proportion of incorrect answers out of all types of non-correct responses, and this fraction represents a lower bound estimate because correct guesses are not included in this estimator given that they are indistinguishable from true knowledge. There are two problems with this approach.

First, the scale is more appropriately labelled a 'Weighted Misinformation Index' where the number of 'don't know' responses is taken into account. Here incorrect answers are not assumed to be evidence of guessing but reflect being misinformed either through truthful responses or guessing. Here it is impossible to tell the origin of these wrong answers because of observational equivalence and the lack of additional information to distinguish the misinformed from the uninformed. The Weighted Misinformation Index ( $MI_{wtd}$ ) is calculated in the following manner.

$$MI_{wtd} = \frac{\text{Incorrect answers}}{\text{Incorrect answers} + \text{Don't knows}}$$

<sup>25</sup> The Guessing index ( $G_i$ ) has a zero-to-one (0-1) range, where  $G_i$  is zero when the percentage of incorrect answers is zero, and  $G_i$  is one when the percentage of DK/NA and incorrect answers are both zero. A summated score was estimated as the mean guessing index across all 16 items for a specific country. In this chapter the Guessing ratio is relabelled as the Weighted Misinformation Index ( $MI_{wtd}$ ) because this statistic is primarily about having 'false' knowledge or being misinformed.

Second, this Weighted Misinformation Index must be adjusted to take account of the number of correct answers, otherwise a respondent who gets one question wrong and has no ‘don’t know’ responses will be given the maximum Weighted Misinformation Index score. This makes little sense. Consequently, the Weighted Misinformation Index ( $MI_{wtd}$ ) is adjusted by a respondent’s number of correct answers through simple division. The Adjusted Misinformation Index ( $MI_{adj}$ ) is calculated as follows.

$$MI_{adj} = \frac{MI_{wtd}}{\text{Correct answers}}$$

With the Adjusted Misinformation Index ( $MI_{adj}$ ) respondents who answered all questions correctly receive a score of zero. Conversely, all those interviewed who answered all 16 questions incorrectly without providing a single ‘don’t know’ response have a score of one (1).<sup>26</sup> It is important to note that these two misinformation indices are ratios that have a 0–1 range and are calculated at the individual-level where mean country estimates are estimated from all respondents from the nine national samples in the Images of the World in the Year 2000 survey.

#### *4.1.3 Adjusting objective knowledge scores for guessing*

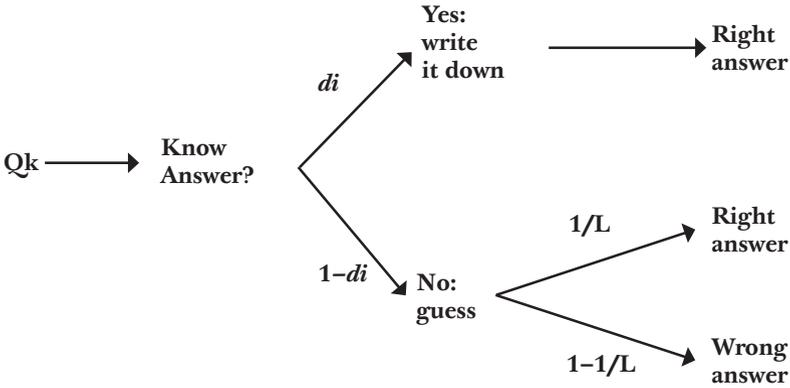
Since the beginning of education testing in the early twentieth century there has always been concern about how to deal with students who guess the answers. With a limited number of response options there is always the chance that the person tested will get the answer correct by chance and appear more knowledgeable than they really are. This represents an influential, and often implicit, model of survey response, as shown in Figure 4.1. In this figure one can see that there is no room for being misinformed or for having partial knowledge. Knowledge is represented as a dichotomous variable where a person is informed (1) or not (0). A key issue here is ensuring that the measurement of knowledge is both valid and reliable and that respondents answer honestly.

For example, Lee J. Cronbach (1946) in early research on this topic explored how non-knowledge factors such as question response style (the key theme in this chapter) contributed to knowledge scores. His educational testing experiments revealed that with simple true or false questions test takers who did not know the answer to a question tended to guess and respond with ‘true’ more often than ‘false’ leading to a specific type of ‘acquiescence bias’. This response style had two main implications: (1) questions with correct ‘false’ answers are more valid

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<sup>26</sup> This is a theoretical maximum because dividing the numerator in the  $MI_{adj}$  by zero (0) correct answers is mathematically not defined.

**Figure 4.1: Survey response model of how interviewees answer political knowledge questions**



Source: Borgatti and Carboni (2007: 452)

Note in this response model  $d_i$  refers to a correct or right answer (R) to a question ( $Q_k$ ), while  $1-d_i$  indicates incorrect or wrong answers (W), and  $L$  denotes the number of response options available. This figure outlines the thinking behind the R-W (Right-Wrong) formula for adjusting knowledge scores for guessing described in the text.

and reliable than items with ‘true’ answers, and (2) this response strategy constrained the range of test scores if there were the same number of true and false items in a battery of knowledge questions. Consequently, Cronbach discovered that the mean knowledge score increased when most items had ‘true’ correct answers and decreased when most questions had a correct ‘false’ answer. Consequently, use of corrections such as the standard ‘Right minus Wrong’ ( $R - W$ ) correction formula (see the next subsection) for guessing was considered by Cronbach, as noted above, to be inappropriate.

The key point here is that response styles do influence knowledge scores; however, this process is often test-specific and there is no general protocol for dealing with what strategies respondents use when guessing answers – e.g. selecting ‘true’ most often or randomly choosing ‘true’ and ‘false’. The Images of the World in the Year 2000 survey had the following correct answer key: NATO was the correct answer for 8 questions, the Warsaw Treaty Organisation for 3 items, and neutral was the right answer for 5 questions. Preliminary analyses of respondents living in NATO and Warsaw Treaty countries adopting their own country’s military alliance as a default ‘guessing’ strategy did not follow the response style identified by Cronbach (1946) above.

Within Classical Test Theory the main approach to estimating the probability that a respondent will answer a specific political knowledge question correctly ( $S_i$ ) depends on firstly knowing the right answer ( $R_i$ ) and secondly guessing the right answer, and the latter in turn depends on the number of choices ( $k$ ). This leads to the following equation.

$$S_i = R_i + (1 - R_i)/k$$

Knowledge questions with different numbers of response options have varying correct guessing probabilities – e.g., .50 for two response options, .33 for the three options, etc. A political knowledge score can be adjusted for guessing using the following ‘Right minus Wrong’ ( $R - W$ ) equation(s) where the one on the right is the standard one presented in textbooks and articles; however, both are algebraically equivalent (see Borgatti and Carboni 2007: 451; Diamond and Evans 1973: 181; Frary 1988: 33).

$$K = \frac{S - 1/k}{1 - 1/k} \quad \text{or alternatively } K = R - W/(k - 1)$$

Here  $K$  is the knowledge score adjusted for guessing,  $S$  is the original political knowledge quiz score,  $R$  is the number of correct answers,  $W$  the number of incorrect ones, and  $k$  is the number of response options. Subtracting the adjusted knowledge score ( $K_i$ ) from the actual knowledge score ( $S_i$ ) provides a rough estimate of the guessing rate ( $G_i$ ) at the individual level, i.e.  $G_i = S_i - K_i$ , as discussed below.

The derivation of the adjusted knowledge equation assumes that (a) all incorrect answers are bad guesses and (b) all correct answers are obtained either by knowledge or good guessing. The possibility that respondents might be misinformed or may have partial information is not considered. In theory, a respondent knows the answer to a knowledge item and answers it correctly with a probability of one ( $p=1.0$ ), or the interviewee does not know the answer and guesses among  $k$  equally attractive alternatives. This approach to adjusting knowledge scores for guessing is one simple example of an entire class of more sophisticated weighting procedures. With the  $R - W$  formula, correct answers receive a weight of one (1), incorrect answers receive a weight of  $-1/(k - 1)$ , and those who reply ‘don’t know’ or give ‘no answer’ receive a weight of zero.

This adjustment for guessing, i.e. the  $R - W$  statistic, has long been criticised for making unrealistic assumptions about respondents. For example, some individuals may genuinely be misinformed or ‘half-know’ facts, and so their response strategies and answers reflect a more complicated situation than being simply informed or not. Frary (1988: 36) makes an important point with regard to interpreting the  $R - W$  statistic.

[I]t is widely believed that formula scoring eliminates score gains due to lucky guessing. Of course, it does nothing of the kind. An examinee with an exceptional run of good luck will do as well (relatively) on a formula-scored test as on one scored number right. Only to the extent that the instructions curtail guessing does formula scoring blunt the effect of an examinee's good luck. (Then, among the lucky, the audacious gain more than the compliant.) Such a misconception can engender false confidence in testing, which can lead to over interpretation and misuse of scores. The belief that formula scores represent what examinees would have made in the absence of guessing can have a similar effect.

Notwithstanding these criticisms, the  $R - W$  statistic remains an influential approach to adjusting test scores and will be used to explore cross-national differences in guessing in this chapter. This discussion of survey response style has an important implication for the definition of knowledge. Usually what constitutes knowledge is defined by experts. However, it is possible to define knowledge in a more 'democratic' way in terms of what a majority or plurality believe is correct.

A similar idea is at the heart of Condorcet's Jury Theorem. This influential theorem in Social Choice Theory (the mathematical study of collective decision making) shows that the relative probability of coming to a correct decision using a majority decision rule depends on the probability of each person having a greater than 50/50 chance of making a correct choice. This theorem is criticised for making unrealistic assumptions. Fortunately, these assumptions are not violated when choices are made in survey interviews, i.e. as long as individuals make choices independently, correctness is meaningful because it refers to common knowledge, and the menu of choice is limited to two options where the correct answer is either true or false.

The key point here is that a deeper understanding of how a survey respondent answers political knowledge questions should take into account what those interviewed consider is knowledge. It could be that survey response effects, as described above, may reflect an individual's perceptions of common knowledge rather than deviations caused by guessing the answers to objective factual questions defined as being correct by experts.

#### *4.1.4 Subjective knowledge and perceptual agreement*

One implication from knowledge testing is that if everyone interviewed is informed then there will be consensus among all respondents about what is factually correct. One may build on this idea in two ways. First, raw and adjusted knowledge scores may be created using an 'objective' definition of correctness created by experts. Second, a consensus measure for agreement among pairs of respondents may be used to create a 'subjective' conception of political knowledge.

Under specific conditions, defining knowledge as an agreement between two or more individuals as to what is correct yields very simi-

lar mathematical formulae for (1) individual knowledge scores and (2) agreement between pairs of individuals on some fact. This similarity between 'objective' and 'subjective' knowledge occurs because many people agree on what experts say is factually true. This matches Condorcet's theorem, described above, where a group will come to a correct decision if each person has a greater than fifty-fifty chance of giving the correct answer.<sup>27</sup> This 'Cultural Consensus Theory' perspective to answering questions will be the core insight for exploring a 'subjective' approach to political knowledge in Chapter 5.

In this chapter an important goal is to examine the degree to which respondents in the nine national samples in the Images of the World in the Year 2000 survey shared the same perceptions of what constituted the correct answers to the 16 military alliance questions asked. Within the study of public opinion the extent to which citizens share the same opinions, values, beliefs or preferences is sometimes known as 'Perceptual Agreement'.

Van der Eijk (2001) developed a statistical measure of Perceptual Agreement (PA) in two steps: (1) decomposing empirical survey data distributions into components that are of an ideal type, (2) estimating consensus among responses in the ideal decomposed components in a valid and reliable manner. The key feature of this approach is the representation of observed response distributions as a weighted set of ideal distributions, i.e. uniform, unimodal, bimodal and multimodal. These ideal distributions are first weighted and then summed together to yield the observed response profile or distribution. The PA statistic provides an estimate of public consensus for a set of ideal distributions weighted on the basis of their contribution to the final solution.

The Perceptual Agreement (PA) statistic has an intuitive meaning. It ranges from -1, indicating complete disagreement, to +1, denoting complete public agreement. Values close to zero suggest no collective consensus. Here the PA statistic treats the knowledge response scales as ordinal (i.e. misinformed, uninformed and informed) where 'don't know' and 'no answer' responses are included in the estimation of the public opinion consensus measure. This is because they provide information about the degree to which the public is uninformed.

In this chapter, the PA statistic indicates the extent of consensus on what was considered to be the 'correct answer' to the military alliance knowledge items examined in the Images of the World in the Year 2000 survey. However, the PA measure says nothing about the content of the collective consensus on what is a political fact. All the PA statistic shows is the degree to which there was a consensus in the answers given.

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27 For a formal derivation see Romney et al. (1986), Weller (2007) and Borgatti and Carboni (2007: 454).

## 4.2 A Cultural Explanation of Survey Response Style

There are two answers to the question: what are the sources of cross-national differences in answering knowledge questions? First, there is an institutional answer, shown in Figure 4.2 in terms of technology, economics, politics and international orientation, which was reflected in (the question on) military alliance membership. Second, there is a cultural answer where the focus is on cross-cultural communication: an inductive approach developed by Geert Hofstede (2010) to study tens of thousands of employees working for IBM (a large multinational company) during the 1960s and 1970s – the same time period when the *Images of the World in the Year 2000* survey was fielded.

There are three advantages to using Hofstede's 'Cultural Dimension Theory' and associated country-level estimates for exploring survey response style in the *Images of the World in the Year 2000* survey conducted between 1967 and 1970. First, this typology of national cultures was developed during the period in which Hofstede undertook his original research, and the application of his insights to the *Images of the World in the Year 2000* survey data is appropriate. Second, subsequent estimates of the cultural dimensions are not problematic because cultural values are by definition only expected to change slowly over time, so estimates of cultural dimensions in post-communist Europe after 1990 (a task impossible under socialism) are still valid. Third, a number of previous studies have used Hofstede's Cultural Dimensions Theory and data to examine survey response style cross-nationally (e.g. Smith 2002; Harzing 2006).

According to Hofstede (2001, 2010), the societal values that characterise countries may be statistically grouped into six clusters using statistical methods such as Principal Components Analysis. Hofstede, in his cross-national surveys, identified four and later six 'core' cultural dimensions. These dimensions were interpreted in a broadly functional manner as constituting answers to key societal management tasks that may be summarised as follows: (1) how to deal effectively with an unequal distribution of power in society, (2) how are individuals integrated into groups so as to ensure social cohesion, (3) how do societies deal with uncertainty and ambiguity – this has a major impact on the tone and content of public policy making, (4) how do different societies organise and manage the impact of gender differences and their influence on social values and policies, (5) how short-term or long-term a society's orientation in public planning for the future is?, and (6) what are societies' methods for managing hedonic desires, where strategies may range from following strict norms and values or adopting an approach oriented toward immediate gratification to collective decision-making.

These six 'social functions' became Hofstede's (2010) six dimensions of national culture: Power Distance Index (PDI); Individualism versus Collectivism (IDV); Masculinity versus Femininity (MAS); Uncertainty Avoidance Index (UAI); Long-Term Orientation versus a short term one

**Figure 4.2: Overview of some key institutional characteristics of countries in the Images of the World in the Year 2000 Survey, 1967–1970**

<i>Country</i>	<i>Technology</i>	<i>Economy</i>	<i>Politics***</i>	<i>Military</i>	<i>Knowledge</i>
Norway	High	Market	LD	NATO	81%
West Germany	High	Market	LD	NATO	75%
Czechoslovakia	Medium	Centralised	Communist	WT	69%
Netherlands	High	Market	LD	NATO	69%
Finland	Medium	Market	LD	Neutral	63%
Slovenia*	Medium	Mixed	Communist	Neutral	63%
Britain	High	Market	LD	NATO	56%
Spain**	Low	Market	Authoritarian	Neutral	0%
Poland	Low	Centralised	Communist	WT	Not asked

Sources: Galtung (1976: 48–49) and Lyons (2009: 123)

Legend: LD – Liberal Democracy; WTO – Warsaw Treaty Organisation.

Note this classification reflects key national determinants of attitudes toward future development. Level of technology is classified into three qualitative categories: low, medium and high. \* All cases are national samples except for Slovenia, which is included here as an example of an ‘advanced’ reform-oriented federal region within Yugoslavia. In this chapter, Czechoslovakia will be split into its Czech and Slovak components thereby extending the number of cases for making inferences about intra-communist bloc differences. \*\* Spain did not formally join NATO until 1986, but was informally aligned with NATO during the Franco period where membership was not possible because of its non-democratic system of government. Technically, Spain was a neutral state during the 1967–1972 period. \*\*\* Communist states may be further classified into those followed the Soviet lead in most matters such as economic management and collective security (Czechoslovakia and Poland), and those who did not (Yugoslavia/Slovenia). National level of knowledge is the percentage of correct answers to the set of 16 questions.

(LTO); and Indulgence versus Restraint (IVR). Although not originally conceptualised as an explanation for systematic differences in response style in cross-national surveys, a number of previous studies have employed Hofstede’s Cultural Dimensions Theory for this task. Here the central insight is that cultural values in a society can impact a country’s mean levels of political knowledge. All expectations linking Hofstede’s six cultural dimensions and the five survey response style effects explored in this chapter are summarised in Figure 4.3.

#### *4.2.1 Power Distance Index (PDI) and survey response style*

Hofstede (1997: 28) defined 'power distance' as the 'extent to which the less powerful members of organizations and institutions (like the family) accept and expect that power is distributed unequally'. This subjective view of inequalities in power is based on a collective rather than individual perspective where it is implied that differences in power are legitimised by both leaders and those governed. Consequently, national cultures that have a high PDI score tend to be more hierarchical and deferential in nature, while low PDI scores refer to polities characterised by power relations that are more consultative or democratic. Cultures with high PDI scores tend to be authoritarian in nature and have higher levels of conformity and submissiveness. One channel in which social conformity might be evident is acquiescent behaviour. In survey response terms, a high PDI should be associated with decisiveness and (a) a stronger tendency not to give 'don't know' answers and (b) lower rates of guessing and incorrect answers. Moreover, countries with a high PDI score will be characterised by a general collective understanding of what is 'correct' political knowledge (note, Chen et al. 2001; Triandis and Gelfand 1998; Nelson and Shavitt 2002). With lower rates of guessing and giving incorrect answers, the mean general level of knowledge measured (OKS) should have a negative relationship with PDI because the 'benefits' of chance correct answers are not present. All of these expectations may be expressed succinctly in the following hypothesis.

H1: There will be a positive association between high PDI scores and mean DK and PA values and a negative correlation with OKS,  $G_i$  and  $MI_{\text{wtd}}$  indices.

#### *4.2.2 Individualist (IDV) culture and survey response style*

Hofstede's (1980, 2001, 2010) individualist-collectivist dimension refers to the degree to which individuals are integrated into social groups such as the family. On the one hand, individualistic societies exhibit weak links between individuals and emphasise personal responsibility. On the other hand, in collectivist societies the focus is on the 'common good' and priority is given to developing and sustaining strong social groups (Chen et al. 2001; Hofstede 2001). Here primary social groups such as 'extended families' offer social protection, but as a price for collective security they demand a high level of loyalty to the group. Individualist cultural values motivate citizens to seek clarity when making statements as there is little fear in expressing strong, and potentially insulting, opinions (Hall 1976; Triandis 1995). Therefore, the predominant mean response style in individualist societies will be against expressing 'don't know' answers and adhering to the prevailing collective view as to what are the correct facts. Conversely, collectivist cultures will be positively

**Figure 4.3: Summary of expected relationships between national culture characteristics and survey response style for factual knowledge items**

<i>Cultural dimension</i>	<i>Hypotheses</i>	<i>Survey response style indicators</i>				
		<i>OKS</i>	<i>DK</i>	<i>G<sub>i</sub></i>	<i>MI<sub>wtd</sub></i>	<i>PA</i>
PDI	H1	-	+	-	-	+
IDV	H2	+	-	+	+	-
MAS	H3	+	-	+	+*	-
UAI	H4	-	+	-	-	+
LTO/PRA	H5	+	-	+	+*	+
IVR	H6	-	-*	+	+	-

Source: author

Legend: Hofstede’s seven cultural dimensions – PDI: Power Distance Index; IDV: Individualism; MAS: Masculinity; UAI: Uncertainty Avoidance Index; LTO/PRA: Long-Term Orientation / Pragmatism; IVR: Indulgence Versus Restraint. The acronyms used for survey response effects are OKS: Original knowledge score; DK: Don’t know (or no answer); G<sub>i</sub>: Guessing Index; MI<sub>wtd</sub>: Weighted Misinformation Index; PA: Perceptual Agreement. Note that the (+\*) and negative (-\*) symbols refer to those correlations not observed in the results presented later in Table 4.4.

associated with non-definite or ambiguous answering such as responding ‘don’t know’ and with a consensus about what are the truthful facts. Individualist societies will have higher knowledge scores because of a higher propensity toward guessing and expressing opinions (some of which are factually correct).

H2: There will be a positive correlation with OKS, G<sub>i</sub> and MI<sub>wtd</sub> indices and high IDV scores, and a negative association between mean DK and PA values.

#### 4.2.3 Masculinity (MAS) and survey response effects

Within Hofstede’s (2001: 298) Cultural Dimensions Theory, masculinity versus femininity refers to the distribution of emotional roles between men and women within society. Masculine societies exhibit most the values of hierarchy, assertiveness, competitiveness and materialism. In contrast, feminine societies are characterised by modesty, caring values, and being concerned about relationships and quality of life issues (Hofstede 1998). Various studies found that male cultural values exhibit high variance. This gender difference occurs because women do not embrace ‘masculine’ values to the same degree as men accept ‘feminine’ ones. In societies with assertive and competitive values there will be an opin-

ionated survey response style. Here it is expected that there should be (1) a negative correlation with both level of 'don't know' answers and degree of agreement about what constitutes political knowledge, and (2) a positive relationship with guessing and holding factually misinformed views. Again the propensity to guess and express opinions, rather than saying 'don't know', will result in masculine societies having higher levels of knowledge.

H3: There will be a positive association with OKS,  $G_i$  and  $MI_{wtd}$  indices, and a negative link between high MAS scores and mean DK and PA values.

#### *4.2.4 Survey response style and Uncertainty Avoidance (UAI)*

Within social psychology an influential line of research has emphasised the importance of how individuals and societies deal with ambiguity and uncertainty. At the societal level antipathy toward ambiguity and uncertainty is linked with having strict and comprehensive moral and legal codes where there is a tendency toward a belief in an absolute philosophical or religious truth. These societies tend to be highly organised and intolerant. In contrast, other societies that are tolerant of uncertainty tend to have a relativist orientation where there are fewer moral and legal rules because there is less concern with preparing for unexpected events and situations. These societies are characterised by pragmatism and tolerance of differences. With regard to survey response style, societies that prefer certainty are likely to use the 'don't know' response more often and be less likely to guess or give factually incorrect answers (note Smith 2004). This is because societies with sensitivity to ambiguity and uncertainty socialise their citizens to adopt a more 'sincere' form of factual answering: a response style desired by survey questionnaire designers. Moreover, societies that are characterised by uncertainty avoidance will have a strong consensus about what are correct answers. As a result, levels of political knowledge will be lower than average because a 'lucky guessing strategy' is not employed when respondents select wrong 'politically correct' answers.

H4: There will be a positive relationship between mean DK and PA values and high UAI scores, and a negative correlation with OKS,  $G_i$  and  $MI_{wtd}$  indices.

#### *4.2.5 Survey response style and Long-Term Orientation (LTO)*

According to Hofstede's Cultural Dimensions Theory, an effective and functional society must be oriented in two directions simultaneously. First, having roots in the past is necessary to maintain social cohesion. This implies a respect for tradition and adopting a conservative outlook

evident in national pride, respect for tradition and social status, and thinking social obligations are important. Hofstede views this particular form of 'social conservatism' as having a short-term normative orientation because it is oriented in practical terms to maintaining the past in the present: there is no forward thinking. Second, societies must ensure current and future economic development and have a long-term pragmatic orientation that is sufficiently flexible so as to deal with unexpected events and conditions. National societies that have a low Long-Term Orientation (LTO, also known as a Pragmatic versus Normative (PRA) perspective) are open and embrace new ideas, technology and education. Countries that are characterised as having a long-term orientation will have a survey response style that is (1) positively correlated with having knowledge, guessing, and collective agreement about what is correct, and (2) negatively correlated with giving incorrect responses and non-committal 'don't know' answers. The main idea here is that pragmatic long-term oriented countries will be both knowledgeable and opinionated, and this is reflected in the response style for political knowledge items.

H5: There will be a positive correlation between high LTO/PRA scores with mean OKS,  $G_i$ ,  $MI_{\text{wtd}}$  and PA indices, and a negative relationship with DK values.

#### *4.2.6 Indulgence versus Restraint (IVR) and survey response effects*

A core element of any national culture is how happiness is defined. According to Hofstede, one of the most important features of social happiness is the degree to which a society thinks individual freedom is important and should not be restrained. A country that has a high indulgence score will be strongly supportive of freedom of expression. Another aspect of the IVR dimension is how leisure time is spent in a society. In restrained societies leisure pursuits are characterised by strong social norms and sanctions on activities associated with the immediate gratification of needs and wants because they are defined as immoral or illegal. Conversely, in indulgent societies there is support for activities that allow individuals to enjoy life and have fun. Countries that have a high indulgence score will have a lower mean level of knowledge because the duty of being informed about public policy is not widespread. There will also be a negative relationship with giving 'don't know' answers and less public agreement about what is correct knowledge. However, there will be positive relationships with guessing and being misinformed because there is tolerance of differences in opinions and ideas.

H6: There will be a positive correlation between high IVR scores with mean  $G_i$  and  $MI_{\text{wtd}}$ , and negative associations with the OKS, DK and PA indices.

It is important to stress that these six hypotheses regarding the cultural determinants of survey response style effects refer to national averages. Consequently, Hofstede's (2010) six cultural dimensions facilitate exploring average differences between countries, and not differences between individuals. Hofstede's (2010) cultural dimension approach was used by Harzing (2006: 243) to examine survey response style in 26 countries, who found that '[c]ountry-level characteristics such as power distance, collectivism, uncertainty avoidance and extroversion all significantly influence response styles such as acquiescence and extreme response styles'. Within this chapter the focus is on response style effects associated with answering factual political knowledge items.

### 4.3 Data and Methods

The Images of the World in the Year 2000 survey was fielded in eleven countries between 1967 and 1970 and examined the perceptions of the younger generation (15 to 40 years old) of the future and their attitudes toward war, peace and disarmament. This is one of the few surveys undertaken in both Eastern and Western Europe and Asia (India and Japan) during the Cold War, and it provides a valuable opportunity to explore the impact of regime type and contrasting political philosophies on younger citizens' social and political attitudes. Details of the survey fieldwork are given in Ornauer (1976: 601–612).

Not all of the samples are based on national populations. For example, the Yugoslav sample was conducted primarily in Slovenia. Moreover, it makes good sense to divide the Czechoslovak sample into its Czech and Slovak components. The political knowledge items were not fielded in Japan or Poland, so these two countries are also not included in the final subset of nine countries examined. From a historical perspective this is one of the few comparative surveys that examined citizens' attitudes and knowledge on either side of the Iron Curtain.

Figure 4.1, shown earlier, ranks all of the national samples in descending order of knowledge by national political, economic, and level of technology features. Here we can see there is no simple relationship between country-level characteristics and general level of political knowledge. The key variable of interest in this chapter is objective or factual political knowledge. As noted earlier, this was measured in nine countries using a set of questions regarding sixteen countries' membership (or not) of Cold War military alliances: the Warsaw Treaty Organisation or the North Atlantic Treaty Organisation (NATO). Respondents were also asked if a country had been formally neutral during the 1967 to 1970 period. The correct, don't know and incorrect answers to the sixteen questions may be examined in more than one way.

#### 4.3.1 Coding of objective political knowledge items

In this chapter two classification strategies for coding answers to the sixteen political questions implemented in the Images of the World in the Year 2000 survey will be used. First, the responses were coded to yield a dichotomous knowledge variable. A code of one (1) indicates a correct answer, and an incorrect or 'don't know' and 'no answer' (DK/NA) responses were coded as zero (0). Here it is assumed that inability to give a correct answer stems from a common origin: lack of knowledge where some respondents admitted not knowing and others either guessed or were incorrect. Second, the responses are coded to yield a polytomous knowledge variable, where knowledge is conceptualised as a continuum ranging from (1) 'misinformed' to (2) 'uninformed' to (3) 'informed', derived from incorrect, DK/NA, and correct answers, respectively.

Table 4.1 provides an overview of the results by national sample using the first dichotomous scoring method. This table shows that the rate of zero correct answers is especially high in Spain (64%) and is also comparatively high in both Finland (21%) and Slovenia (21%). Otherwise, there appears to be a generally normal (Gaussian) distribution of correct answers around various country-specific modal values. In contrast, a more detailed polytomous coding of the knowledge data and shows four key patterns that relate to the saliency of specific countries' military orientation.

First, it was easier for respondents to identify the military alliance affiliations of 'leader' countries such as the United States of America (USA) and the Soviet Union (or USSR), which were the main founding members of the North Atlantic Treaty Organisation (NATO) and the Warsaw Treaty alliances, respectively. Second, neutral countries that were not formally part of any military alliance were more difficult for respondents to correctly identify. Third, Eastern and Western European countries whose association with military alliances was 'ambiguous' due to their independent foreign policy position were also more difficult for all respondents to answer correctly. Fourth, the response style in different countries was not always the same time for all questions asked due to dissimilarities in answering within countries for specific items (note, Sicinski 1970, 1976; Vaerenbergh and Thomas 2013).

An examination of the pattern in responses to the knowledge questions shows each of these three salience vs knowledge of membership profiles, where, for example, citizens from some NATO countries had problems figuring out if France was a member of NATO. Such confusion was understandable because the French government adopted a progressively autonomous position within the NATO command framework between 1959 and 1967 due to fears of United States dominance. Similarly, the position of Yugoslavia within the communist camp was also ambiguous because of problematic relations with the USSR. Finally, the profile of Spanish respondents is distinct and has high levels of 'don't know, no answer' answers to all sixteen knowledge questions. This high

**Table 4.1: A comparison of the number of correct answers in the Images of the World in the Year 2000 survey quiz by country (per cent)**

<i>Correct answers</i>	<i>Czechs</i>	<i>FRG</i>	<i>Spain</i>	<i>Britain</i>	<i>Norway</i>	<i>Netherlands</i>	<i>Finland</i>	<i>Slovenia</i>	<i>Slovakia</i>	<i>Total</i>
0	1	3	64	7	2	8	21	21	1	19
1	0	0	1	2	1	1	2	2	0	1
2	1	1	2	2	1	1	1	1	1	1
3	1	1	2	3	0	1	3	1	1	1
4	1	1	2	4	1	2	2	1	1	2
5	2	1	3	4	1	1	2	2	2	2
6	3	1	3	7	1	4	4	2	3	3
7	5	2	2	8	2	4	3	4	5	4
8	7	4	3	10	3	7	5	5	7	5
9	10	6	3	11	5	7	6	8	10	7
10	13	10	4	13	7	11	8	8	14	9
11	16	15	4	12	5	15	8	9	15	11
12	18	15	3	7	13	15	8	14	17	11
13	12	15	2	6	19	15	11	11	12	11
14	6	12	1	2	18	5	8	7	5	7
15	3	10	1	2	13	4	6	3	5	5
16	2	3		1	8	1	2	0	3	2
<i>N</i>	<i>854</i>	<i>2052</i>	<i>1836</i>	<i>1000</i>	<i>539</i>	<i>666</i>	<i>491</i>	<i>600</i>	<i>324</i>	<i>8362</i>

Source: Images of the World in the Year 2000 surveys, 1967–1970

Note that estimates are column percentages that sum to 100% and provide national profiles of level of political knowledge. The ‘correct answers’ column on the left indicates the level of political knowledge, where scores are simply aggregated from the battery of 16 items asking about national membership of the Warsaw Treaty and NATO military alliances. FRG refers to the Federal Republic of (West) Germany.

level of non-response is even evident for a question regarding Spain's own formal position of neutrality. These results show that Spanish respondents had a unique survey response style. Why this is the case is not clear, as the survey documentation makes no references to interviewing problems in Spain. Perhaps respondents were unwilling to answer military alliance questions in Francoist Spain (1939–1975) because it was a sensitive political topic.

#### 4.4 Evidence for Survey Response Style Effects

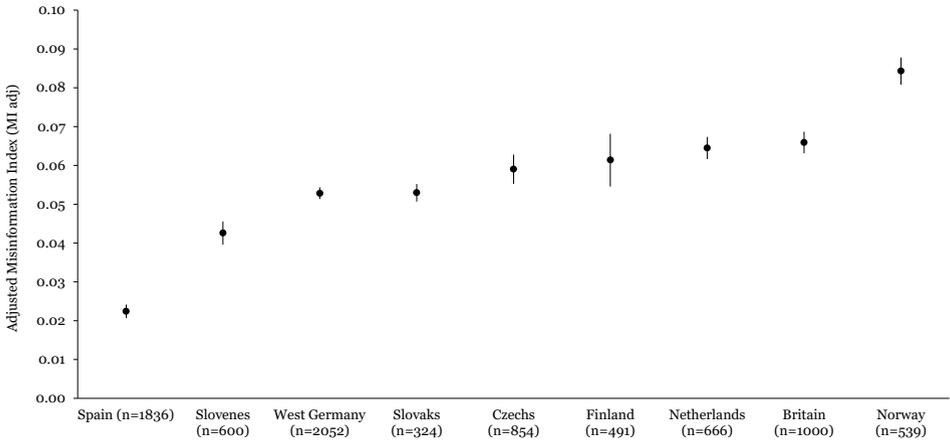
A core assumption in measuring political knowledge is that the survey instrument used does not influence the knowledge scores estimated. Much research in education testing over the last century demonstrates that test takers do have response styles that can bias test results resulting in some people appearing more or less knowledgeable than is really the case. Within political science there has been debate, as noted in the previous chapters, that particular survey response styles such as propensity to guess can also yield biased results. Therefore, explicit use or exclusion of the Don't know / no answer (DK/NA) response option(s) is suspected of having systematic effects on the propensity of women to give answers. This difference in how men and women answer questions may be responsible for the gender gap in political (and general) knowledge observed in numerous surveys (Nadeau and Niemi 1995; Mondak 2001; Mondak and Davis 2001; Sturgis et al. 2008).

##### 4.4.1 A misinformation index approach to survey response style

A comparison of the mean country Adjusted Misinformation Index ( $MI_{adj}$ ) is presented in Figure 4.4, where a low score indicates being knowledgeable with many correct answers combined with few 'don't know' responses, and a high score reveals misinformation or false knowledge with few 'don't know' responses. The trend in Figure 4.4 shows that Spain and Norway are outliers, where the former is characterised by many 'don't know, no answer' responses (75%), and the latter has much fewer (9%). A comparison between the mean number of correct answers and the  $MI_{adj}$  shows a similar, but imperfect profile, where Spain has the lowest number of correct answers (3 out of 16 or 19%) and Norway the highest (12 out of 16 or 75%).

This suggests that Norwegians' willingness to give incorrect answers and reluctance to say 'don't know, no answer' is associated with a higher national level of political knowledge. In short, guessing makes people appear cleverer. The Spanish case is important because it shows the validity of interpreting low  $MI_{adj}$  scores as reflecting a non-definite (neither correct nor incorrect) honest survey response. Similar to Spanish respondents, Slovenes' and Finns' greater willingness to respond that they did not know the answers to the military alliance questions is linked

**Figure 4.4: Comparison of public ‘misinformation’ about military alliance membership, 1967–1970**



Source: Images of the World in the Year 2000 survey, 1967–1970

Note that the vertical axis refers to a Misinformation Index adjusted ( $MI_{adj}$ ) where a score of zero (0) indicates that on average all respondents in a country got all answers correct. In contrast, a score of one (1) reveals that all answers were incorrect and nobody replied ‘don’t know’. Therefore, low scores in this figure indicate a high proportion of correct answers with some ‘don’t know’ responses. Conversely, a high score reveals a high proportion of incorrect answers with little use of the ‘don’t know’ response option. The large black circles are mean scores and the vertical lines represent 95% confidence intervals.

with relatively low levels of average knowledge. Here unwillingness to guess is linked with being less informed.

In short, Figure 4.4 suggests that survey response patterns such as unwillingness to respond ‘don’t know’ is connected with higher levels of knowledge, as is the case with Norway. However, this relationship is not perfect because Britain has high levels of misinformation (or bad guessing) and one of the lowest levels of knowledge with 9 out of 16 answers correct. British and Slovene response patterns are interesting in that both have the same national median level of knowledge (56%), but their mean don’t know response and misinformation rates are quite different, as shown in Figure 4.4.

Overall, the centre part of Figure 4.4 shows that the mean  $MI_{adj}$  estimates for West Germans, Slovaks, Czechs and Finns are clustered around values ranging between .04 and .06, with some of the confidence

intervals overlapping. This evidence suggests that the misinformed survey response pattern is broadly the same for most countries with the exception of the Spanish, Slovene and Norwegian samples. There is no East-West divide evident in Figure 4.4. This suggests that differences in countries' political or economic systems were not associated with systematic variations in how respondents answered the knowledge items in the Images of the World in the Year 2000 survey.

#### *4.4.2 Adjusting political knowledge scores for the guessing perspective*

An alternative approach to investigating the impact of survey response strategies on the measurement of objective political knowledge is to look at mean differences in estimated guessing rates. Using the Right minus Wrong ( $R-W$ ) adjustment formula, discussed earlier, it is possible to see if there is a systematic pattern across the national samples examined in this chapter. The results presented later in Chapter 8 in Figure 8.3 reveal that some countries have quite large adjustments for guessing, and these adjustments increase as the original estimates for knowledge decrease. In other words, the key message of these adjustments for guessing estimates is that countries with lower mean levels of knowledge guessed more frequently than high knowledge countries such as Norway and West Germany.

Adjusted knowledge scores cannot be estimated for Spain because of the very high level of 'don't know, no answer' responses (that are coded as incorrect with a dichotomous coding scheme), which yields a logically impossible negative adjusted knowledge score. Spain is interesting in this sense because its response profile is 'pure' because there is no guessing: a majority of three in four respondents refused to give any answer to the battery of knowledge items. In this situation, estimating a guessing ratio makes no sense because the public opinion climate in authoritarian Spain in 1970 motivated many respondents to give 'don't know, no answer' replies.

Some care is required in interpreting adjustments for guessing data. This is because the difference between the original and adjusted knowledge scores (which in theory reflects 'guessing' may not be valid. Frary (1988: 36) warned, in a quote presented earlier in Section 4.1.3) that the adjustment for guessing estimates do not take account of the fact that respondents participating in the Images of the World in the Year 2000 survey were not explicitly warned against guessing. As a result, confident and lucky respondents may have elevated their knowledge scores, while reticent and unlucky interviewees would have lowered their scores. In sum, the guessing scores reflect other aspects of survey response strategies such as the propensity to give answers in survey interviews that may have psychological, e.g. personality, traits (note, Chapter 9), and cultural origins.

#### *4.4.3 The perceptual agreement view of survey response style*

The final perspective in this chapter's study of survey response effects on objective political knowledge measurement explores the impact of national consensus on what were the correct answers to the sixteen factual military alliance membership questions asked in the Images of the World in the Year 2000 survey. The insight here is that some national populations may show systematically greater collective consensus regarding political knowledge (as measured by the Perceptual Agreement (PA) statistic), even if this consensus is factually (from an expert's point of view) incorrect. This consensus in knowledge may be the basis for a national survey response style. The results are presented in two parts in Tables 4.2 and 4.3.

Table 4.2 shows that there was the greatest consensus on correct answers among West Germans, followed by Czechs and Norwegians. In contrast, the British, Finns and Slovaks exhibited the lowest levels of Perceptual Agreement (PA) about answering the knowledge items. Again, Spain is a specific case and has the highest PA statistic simply because a large majority of respondents (75%) refused to give a definite answer to any of the knowledge items. This is evident in the first column of estimates on the left of Table 4.3. With regard to specific questions, some items proved to be more difficult than others. This is apparent in the contrasting PA statistics. Answers to the questions about British and American membership of NATO elicited the highest consensus scores, while Yugoslav non-alignment, France's uneasy membership of NATO, and Spain's neutrality attracted much lower levels of consensus.

Table 4.3 reveals what was the consensus position in factual terms: Incorrect (I), Don't know, no answer (DK), or Correct (C). Here one can see that there was no country that had a factually correct answer consensus for all sixteen items. Most often the consensus observed was either correct (C) or 'don't know, no answer' (DK). There are less than a handful of instances of incorrect (I) knowledge or misinformation – e.g. the British misunderstanding that Sweden and Yugoslavia were non-aligned countries in 1970.

Overall, the evidence presented in Tables 4.2 and 4.3 suggests that there were systematic differences in collective agreement as to what constituted knowledge. These differences indicate the presence of survey response effects, where respondents in different countries would have followed the collective wisdom. For the most part, consensus on what was considered to be the correct answer matched the facts, except in the case of Britain, where correct, and 'don't know / no answer' responses were equally frequent. With regard to the East-West divide, there is no clear division of countries in terms of perceptual agreement of knowledge. This suggests that the sources of survey response style effects had cultural rather than institutional origins.

**Table 4.2: Comparison of public consensus among Europeans about military alliance membership, 1967–1970**

<i>Knowledge questions</i>	<i>Spain</i>	<i>FRG</i>	<i>Czechs</i>	<i>Norway</i>	<i>Slovenes</i>	<i>Netherlands</i>	<i>Slovaks</i>	<i>Finland</i>	<i>Britain</i>	<i>Item mean, mode</i>
UK in NATO	.70	.83	.78	.91	.68	.79	.85	.53	.75	.76
USA in NATO	.66	.87	.83	.88	.71	.79	.88	.50	.66	.75
Poland in Warsaw Treaty	.70	.91	.96	.69	.68	.73	.95	.59	.53	.75
West Germany in NATO	.68	.92	.85	.82	.62	.77	.81	.37	.53	.71
USSR in Warsaw Treaty	.66	.90	.96	.57	.64	.66	.96	.57	-.24	.63
CSSR in Warsaw Treaty	.70	.83	.96	.48	.55	.55	.92	.36	.20	.62
Finland is neutral	.84	.48	.51	.63	.70	.39	.48	.59	.50	.57
Switzerland is neutral	.72	.68	.68	.44	.52	.27	.65	.41	-.13	.47
Netherlands in NATO	.73	.71	.02	.49	.35	.86	.11	.16	.29	.41
Norway in NATO	.73	.23	.11	.97	.31	.38	.19	.44	.21	.40
Italy in NATO	.70	.76	.35	-.17	.62	.50	.24	.13	.19	.37
Sweden is neutral	.73	.30	.39	.44	.23	.17	.41	.40	.24	.37
Denmark in NATO	.72	.31	.02	.91	.30	.39	-.03	.28	.36	.36
Yugoslavia is neutral	.71	-.12	.44	-.04	.53	.40	.30	.21	.41	.32
France in NATO	.60	.08	.03	.01	.08	-.26	.18	.29	.36	.15
Spain is neutral	.64	.05	.08	-.05	.24	.25	-.23	.17	-.09	.12
<i>Mean per country</i>	<i>.70</i>	<i>.55</i>	<i>.50</i>	<i>.50</i>	<i>.49</i>	<i>.48</i>	<i>.48</i>	<i>.38</i>	<i>.30</i>	

Source: Images of the World in the Year 2000 surveys, 1967–1970

Note this table reports Perceptual Agreement (PA) or public consensus statistics (van der Eijk 2001). The column on the far right contains mean item specific estimates. CSSR refers to Czechoslovakia, USSR to the Soviet Union, and FRG to West Germany.

**Table 4.3: Comparison of national interpolated median estimates of public knowledge of military alliance membership, 1967–1970**

<i>Knowledge questions</i>	<i>Spain</i>	<i>FRG</i>	<i>Czechs</i>	<i>Norway</i>	<i>Slovenes</i>	<i>Netherlands</i>	<i>Slovaks</i>	<i>Finland</i>	<i>Britain</i>	<i>Modal response</i>
UK in NATO	DK	C	C	C	C	C	C	C	C	<i>C</i>
USA in NATO	DK	C	C	C	C	C	C	C	C	<i>C</i>
Poland in Warsaw Treaty	DK	C	C	C	C	C	C	C	DK	<i>C</i>
West Germany in NATO	DK	C	C	C	C	C	C	C	C	<i>C</i>
USSR in Warsaw Treaty	DK	C	C	C	C	C	C	C	DK	<i>C</i>
CSSR in Warsaw Treaty	DK	C	C	C	C	C	C	DK	DK	<i>C</i>
Finland is neutral	DK	C	C	C	DK	DK	C	C	DK	<i>C</i>
Switzerland is neutral	DK	C	C	C	C	C	C	C	DK	<i>C</i>
Netherlands in NATO	DK	C	DK	C	DK	C	DK	DK	C	<i>CDK</i>
Norway in NATO	DK	DK	DK	C	DK	C	DK	C	C	<i>DK</i>
Italy in NATO	DK	C	C	C	C	C	C	DK	DK	<i>C</i>
Sweden is neutral	DK	C	C	C	DK	DK	C	C	I	<i>C</i>
Denmark in NATO	DK	C	DK	C	DK	C	DK	DK	C	<i>DK</i>
Yugoslavia is neutral	DK	DK	C	I	C	I	C	DK	I	<i>M</i>
France in NATO	DK	C	C	C	DK	C	C	DK	C	<i>C</i>
Spain is neutral	DK	DK	DK	C	DK	DK	DK	DK	DK	<i>DK</i>
<i>Mode per country</i>	<i>DK</i>	<i>C</i>	<i>C</i>	<i>C</i>	<i>C</i>	<i>C</i>	<i>C</i>	<i>C</i>	<i>CDK</i>	

Source: Images of the World in the Year 2000 surveys, 1967–1970

Note the interpolated median estimates classified into correct [C], incorrect [I], and don't know [DK] answers. Here it is assumed that there is an ordinal scales that ranges from incorrect (misinformed) to don't know (uninformed) to correct (informed). CDK refers to a correct/don't know mix, and M refers to a mix of correct, incorrect and don't know answers. The column on the far right refers to modal (most frequent) responses. CSSR refers to Czechoslovakia, USSR to the Soviet Union, and FRG to West Germany.

## 4.5 Cultural Determinants of Survey Response Effects

One of the central messages of the analyses presented in the last section was that the country-level variation in survey response effects did not match the institutional (i.e. technology, economics, politics and military alliance) differences depicted earlier in Figure 4.1. In this section, the goal is to explore whether Hofstede's (2010) Cultural Dimensions Theory of cross-national differences in values does a better job in helping to explain the variations in survey response style discussed earlier in Section 4.3. Table 4.4 presents estimates of Hofstede's six cultural dimensions for the national samples examined using the Images of the World in the Year 2000 survey, which matched the five estimates of survey response style effects discussed in the previous section.

The key feature of Table 4.4 is the bottom part, where the results of correlations between cultural values and survey response style scores are reported. Here the objective is to check whether the patterns in the correlations match the six hypotheses presented earlier in Section 4.3.<sup>28</sup> Please note that Figure 4.3, shown earlier, provides (1) a summary of the expected relationships and (2) a ready means of determining whether the empirical expectations have been observed as positive (+) and negative (-) relationships that are bolded do not match expectations.

Overall, a comparison of the correlations in Table 4.4 and the expectations presented earlier in Figure 4.4 shows that the predictions for the six hypotheses are confirmed for 90% of (i.e. 27 out of the 30) the positive or negative correlations predicted. There appears to be an association between aspects of national cultures and the manner in which political knowledge questions are answered. It is important to stress that there are similarities in the impact of two or more of Hofstede's cultural dimensions on survey response styles examined.

For example, high power differences (PDI) and living in a collectivist culture (indicated by the IDV with opposite signs: positives instead of negatives, etc.) have observationally similar effects on survey response effects for objective (factual) political knowledge. This suggests that there are different response styles for political knowledge items for (a) individualist and egalitarian (or democratic) cultures and (b) countries with collectivist and hierarchical values. The implication here is that political knowledge measurement is affected by the prevailing values and norms, and cross-national differences in political knowledge scores are determined by factors influencing how factual knowledge is measured.

Figure 4.4 also reveals that IDV, MAS, LTO/PRA have a similar response profile, where masculinity, individualism and pragmatism produce the same effects due to the 'overlap' between these cultural dimensions, which perhaps reflects a general sense of liberal individual-

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<sup>28</sup> Correlation analysis provides a means of exploring whether there is an association between national survey response style and cross-national cultural differences. Unfortunately, there are insufficient national cases (n=9) to undertake country-level regression or multilevel models.

**Table 4.4: Correlation between cultural dimensions and survey response effects for political knowledge questions**

Country	Hofstede's Cultural Dimensions						Survey response effects				
	PDI	IDV	MAS	UAI	LTO	IVR	OKS	DK	G <sub>i</sub>	MI <sub>wtd</sub>	PA
Slovenia	71	27	19	88	49	48	51	38	.20	.043	.49
Spain	57	51	42	86	48	44	19	75	.08	.022	.70
Slovakia	100	52	100	51	77	28	66	17	.50	.061	.48
Czechs	57	58	57	74	70	29	65	19	.42	.053	.50
Finland	33	63	26	59	38	57	50	33	.31	.053	.38
Germany	35	67	66	65	83	40	70	16	.38	.059	.55
Norway	31	69	8	50	35	55	76	9	.55	.084	.50
Netherlands	38	80	14	53	67	68	61	21	.41	.064	.48
UK	35	89	66	35	51	69	51	23	.52	.066	.30
<i>Correlations:</i>											
OKS	-.09	.25	.08	-.47	.35	-.13					
DK	.14	-.41	-.13	.64	-.32	-.02					
G <sub>i</sub>	-.14	.60	.25	-.84	.19	.11					
MI <sub>wtd</sub>	-.33	.58	-.06	-.79	.01	.29					
PA	.24	-.46	-.07	.70	.17	-.49					

Source: Hofstede (2010); data available from <http://www.geerthofstede.nl/vsm2013>  
 Legend: Hofstede's seven cultural dimensions – PDI: Power Distance Index; IDV: Individualism; MAS: Masculinity; UAI: Uncertainty Avoidance Index; LTO/PRA: Long-Term Orientation or Pragmatism versus Normative; IVR: Indulgence Versus Restraint. The acronyms used for survey response effects are OKS: Original Knowledge Score; DK: Don't Know or no answer; G<sub>i</sub>: Guessing Index; MI<sub>wtd</sub>: Weighted Misinformation Index; PA: Perceptual Agreement. Note that Pearson product moment correlations were estimated to test the association between Hofstede's cultural dimensions and the survey response effect indicators.

ism – often a defining feature of democratic political cultures. Finally, the impact of the indulgence versus restraint (IVR) dimension on survey response style for knowledge items is distinct. Overall, we can see that there is a 'liberal' characteristic linking the individualism (IDV), masculinity (MAS) and long-term orientation (LTO/PRA) dimensions.

It is important to stress that this analysis has been based on aggregate correlations, and the causal inferences are based on interpreting associations between national-level scores. The correlations presented in Table 4.4 show some strong associations between Individualism (IDV), the Uncertainty Avoidance Index (UAI) and all of the response style indicators. There are generally much weaker correlations for the PDI,

MAS, LTO/PRA and IVR dimensions suggesting that survey response style for political knowledge items is primarily shaped by individualist and uncertainty avoidance factors: themes that will be examined in more detail in Chapter 8, where individual-level explanations of response style effects will be investigated.

## **Conclusion**

This chapter has shown that survey response style effects such as the level of 'don't know, no answer' responses, guessing, giving incorrect answers (weighted for don't knows), and adopting the consensus 'correct' answer are strongly correlated with prevailing national cultural values. Although these results are based on correlations, and care must be taken not to confuse correlation with causation, they are important. This is because these correlations warn us against the tendency to take national political knowledge scores at face value. The measurement of political knowledge using mass surveys is the product of an interpersonal interviewing process, where the prevailing cultural values and social norms impact how the questions are interpreted and answered by respondents.

In short, this chapter has shown that measurement of objective political knowledge includes factual knowledge plus other things such as national culture. Therefore, if one attempts to explain the determinants of objective political knowledge using an 'estimated dependent variable' derived from the responses to a set of factual knowledge questions, there is likely to be measurement error due to response style effects. In this situation, there is the risk of estimating regression model parameters with inconsistent standard error estimates. This is important because incorrectly estimated standard errors, as Lewis and Linzer (2005) highlight, undermine making valid and reliable causal inferences.

Notwithstanding these survey-related methodological and statistical concerns about bias in making causal inferences, response style effects in political knowledge questions are substantively interesting because they provide invaluable insight into the nature of citizens' knowledge of politics. Here the social setting of survey interviews provides researchers with an opportunity to see how respondents are likely to use political knowledge in daily interactions with their fellow citizens. An unwillingness to say 'I don't know' and a willingness to guess the answers to political questions or blithely make factually incorrect declarations about political matters reveals how political information is used in the real world. Having a reputation for being knowledgeable is important – a theme taken up in Chapter 10, when the concept of 'interpersonal knowledge' is introduced.

In the next chapter, the focus returns to the individual-level and the MAO approach to modelling the determinants of political knowledge using the Images of the World in the Year 2000 survey. Here the goal will be to dig deeper into the foundations of objective and subjective politi-

cal knowledge in countries across both sides of the Cold War divide using insights from both the individual and national cultural levels to get a greater sense of how differences in objective and subjective political knowledge are shaped by personal and contextual factors.

## Chapter 5: Objective and Subjective Political Knowledge

By a social value we understand any datum having an empirical content accessible to the members of some social group and a meaning with regard to which it is or may be an object of activity. Thus, a foodstuff, an instrument, a coin, a piece of poetry, a university, a myth, a scientific theory, are social values.

Florian Znaniecki ([1918] 1958: 21)

Religion, politics and formula scoring are areas where two informed people often hold opposing ideas with great assurance.

Frederick M. Lord (1975: 7)

Cultural consensus theory (CCT) is a collection of analytical techniques and models that can be used to estimate cultural beliefs and the degree to which individuals know or report those beliefs. CCT estimates the culturally correct answers to a series of questions (group beliefs) and simultaneously estimates each respondent's knowledge or degree of sharing of the answers.

Susan C. Weller (2007: 239)

### Introduction

Within the social sciences it has been standard practice to describe cultures in terms of beliefs, norms and values on the assumption that all members of the societies studied have knowledge of these common orientations. Empirical analyses of societies have consistently shown that there are significant differences within a society in shared cultural knowledge. In this respect, the influential Polish-born sociologist, and father of the empirical sociological research tradition in the United States, Florian Znaniecki, made a similar point almost a century ago, as highlighted in the opening quote: possession of common knowledge has an inherently sociological nature where some individuals and groups are more 'informed' than others. The idea that all knowledge is social and has a collective nature has three important implications.

First, this perspective suggests that knowledge of politics is subjective in the sense that what is considered to be the 'correct answer' is defined by the views of a well-informed plurality or majority. For example, the social value that 'democracy is the best form of governance' is considered the correct answer by a majority of citizens today in the Czech Republic, but a century ago the answer might well have been support for monarchy. Less obvious are the correct answers to factual questions. In other words, the factual or objective answer to questions like 'Sweden or Yugoslavia are militarily neutral states' in the 1967 to 1970 period was not what a plurality or majority thought was correct in Britain, the Netherlands, Spain and Norway. Evidence of this collective 'misinformation'

was presented earlier in Figure 4.4, suggesting that in some countries objective and subjective knowledge are different.

Second, there need not be a high level of association between objective and subjective knowledge. The opening quote from Frederick M. Lord, an influential American psychometrician who did foundational work on Item Response Theory (IRT), highlights that one must be careful in interpreting political knowledge scores because high objective knowledge can have different origins, nature and consequences. Within the context of this chapter this means that some individuals may score high on factual knowledge scales because they have an interest in politics and/or possess a higher than average level of education. However, other individuals may not exhibit high levels of 'book learning' or be able to repeat for interviewers whether certain political facts are true: but they might have strong social skills and know what most people think about a topic.

For example, most people living in Britain in 1970 knew that Yugoslavia was communist, and hence inferred (falsely) that it must be a member of the Warsaw Treaty military alliance, which was factually incorrect. Here we are moving close to evidence that might be best explored with the heuristic form of explanation that individuals who lack factual knowledge substitute an easier question for a more difficult one. This leads to an inference such as: 'if a country is communist, then answer Warsaw Treaty Organisation' (Kahneman and Frederick 2002; Kahneman 2003, 2011; cf. Gigerenzer and Goldstein 1996, 2011; Tetlock and Gardner 2015).

Box 5.1 highlights how this process works using Kahneman's (2011) explanation of how humans often generate answers to difficult questions when individuals decide not to 'stop and think'. In short, heuristic-based decision-making deviates from rationality and is 'bad' because it is likely to lead to incorrect choices that are often wrong for predictable reasons. In contrast, Gigerenzer et al. (1999, 2009, 2011) argues that heuristics are often sensible ways of making 'adaptively rational' choices. This is a topic that was discussed in earlier chapters and will appear in later chapters because citizens' use or misuse of heuristics goes to the heart of the origins, nature and impact of political knowledge (however the latter is defined).

Third, there may be a collectively defined form of political knowledge that reflects a 'cultural consensus', as outlined in the third epigraph above. This implies that a subjective definition of what is correct and true depends on social-psychological and sociological factors. In other words, common, consensus or subjective knowledge will be unevenly distributed within a society depending on an individual's social expertise in knowing what the 'common knowledge' on a topic is. Empirically this means there will be systematic variations based on age, sex, education, etc. The main implication here is that objective and subjective political knowledge will not be randomly distributed within a society, but

**Box 5.1: Don't know the answer? No problem!  
Substitute an easy question for a difficult one...**

Daniel Kahneman, a Nobel laureate in economics (2002), has examined how individuals often make choices that are not rational, but are biased in systematic ways. In other words, when people lack knowledge they nonetheless give responses to questions that are wrong in predictable ways known as cognitive biases. One important strategy or 'heuristic' is to substitute an easy question for a hard one. A fast, rough and ready, decision-making process (known as System 1) substitutes answers to questions for which information is readily available. This process requires little or no effort and is often automatic. The more sensible option is to 'stop and think' and use what Kahneman (2011) calls 'System 2', which requires effort be made to consider the difficult question. This substitution heuristic then employs an 'intensity matching' process to convert the information available to answer the difficult (or target question). Kahneman (2011: 97–98, 99) explains this question substitution as the following excerpts highlight.

The target question is the assessment you intend to produce. The heuristic question is the simpler question that you answer instead. The technical definition of heuristic is a simple procedure that helps find adequate, though often imperfect, answers to difficult questions. The word comes from the same root as eureka.

A remarkable aspect of your mental life is that you are rarely stumped. [...] The normal state of your mind is that you have intuitive feelings and opinions about almost everything that comes your way. You like or dislike people long before you know much about them; you trust or distrust strangers without knowing why; you feel that an enterprise is bound to succeed without analyzing it [...]

I propose a simple account of how we generate intuitive opinions on complex matters. If a satisfactory answer to a hard question is not found quickly, System 1 will find a related question that is easier and will answer it. I call the operation of answering one question in place of another substitution [...]

Consider the questions listed in the left-hand column of table 1 [shown below]. These are difficult questions, and before you can produce a reasoned answer to any of them you must deal with other difficult issues. [...] Dealing with these questions seriously is completely impractical. But you are not limited to perfectly reasoned answers to questions. There is a heuristic alternative to careful reasoning, which sometimes works fairly well and sometimes leads to serious errors.

*Substitution of an easy question for a difficult one*

<i>Target Question</i>	<i>Heuristic Question</i>
How much would you contribute to save an endangered species?	How much emotion do I feel when I think of dying dolphins?
How happy are you with your life these days?	What is my mood right now?
How popular will the president be six months from now?	How popular is the president right now?

<i>Target Question</i>	<i>Heuristic Question</i>
How should financial advisers who prey on the elderly be punished?	How much anger do I feel when I think of financial predators?
This woman is running for the primary. How far will she go in politics?	Does this woman look like a political winner?

Gerd Gigerenzer's (2000, 2007) argues against Kahneman's (2003, 2011) view that heuristic-based decision-making is best seen as being biased or flawed. Gigerenzer et al. (1999, 2009, and 2011) contend that heuristics often give sensible answers to questions when working in low information environments or where answers cannot be estimated for practical reasons. In other words, there are many real-world situations where factual knowledge may not help. In some situations having less knowledge is better in making correct choices. The key point here is that limited thinking is well adapted to the context in which choices are made: a point made by Herbert A. Simon (1990) when discussing 'bounded rationality' (see Box 1.1). For Gigerenzer, decisions based on heuristics are not indications of flawed choices, as Kahneman contends, but are best seen as evidence of 'adaptive rationality.' This debate highlights that being informed always leads to better decision-making is contested. Assumptions that factual knowledge is the only criteria for evaluating informed political decision-making is a restricted view of how choices are made in real-world settings.

will be clustered on the basis of factors that determine who has access to information (broadly construed). The goal of this chapter is to compare and contrast these determinants of objective and subjective political knowledge using the Motivation-Ability-Opportunity (MAO) model that was used in previous chapters and will be presented in greater detail in Chapter 7.

The modelling evidence presented in this chapter will highlight two key findings. First, the individual-level determinants of factual or objective political knowledge do not show systematic differences across the Cold War divide. Communist and capitalist citizens around 1970 had equivalent levels of knowledge, and the origins of being informed about countries' military alliance membership were broadly similar with some country-specific effects. Second, objective and subjective political knowledge in Czechoslovakia were qualitatively different phenomena with contrasting determinants in June 1967. For example, education is positively associated with higher levels of objective knowledge and negatively correlated with subjective knowledge. This underscores a key point of this book, which is that citizens possess many forms of political knowledge.

The argument put forward in this chapter is presented as follows. Sections 1 and 2 provide brief overviews of objective and subjective political knowledge, and in Section 3 there is a short recap of the MAO framework for examining the individual-level origins of objective and subjective political knowledge. Section 4 presents (a) the regression modelling results for comparing the determinants of objective political knowledge across nine (national) samples and (b) a comparison of objective and subjective political knowledge determinants using Czechoslovakia as a pertinent case study.<sup>29</sup> The final section pulls together the key findings of this chapter and will make comparisons with other results.

## 5.1 Objective Political Knowledge

Within this chapter factual political knowledge measurement using questions that have correct answers based on known facts will be labelled 'objective' knowledge. In contrast, 'subjective' political knowledge is based on a consensus among a plurality or majority of respondents, where the most popular answer is what constitutes subjective political knowledge. The same data will be used in this chapter to construct (1) objective knowledge scales using two-part logistic Item Response Theory (2PL IRT) models and (2) subjective knowledge scores using a specific version of Exploratory Factor Analysis (EFA), where agreement between all pairs of respondents in the Czechoslovak sample is used to estimate individual subjective knowledge.

The country profiles for the dichotomous coding of the political knowledge questions, shown earlier in Table 4.1, revealed that for most national samples there is a reasonably normal distribution of correct answers: ranging between scores of 10 and 12 factually accurate replies out of 16. As noted in Chapter 5, the knowledge profile for Spain is unique because close to two-thirds (64%) of respondents provided no correct answers to any of the 16 questions asked. In Finland and Slovenia there were also relatively high levels of no or zero correct answers: a fifth of those interviewed had no knowledge. It is not entirely clear if this 'zero knowledge' effect in Spain is real or an artefact of the survey's fieldwork. A closer examination reveals that most Spanish respondents refused to answer the knowledge items: this group were characterised by lower levels of household income and education, but there was no systematic age effect.

One of the central goals of this chapter is to examine the determinants of objective political knowledge. A Motivation-Ability-Opportunity (MAO) model is used to explore the determinants of objective knowl-

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29 Estimating the Exploratory Factor Analysis (EFA) models for the subjective political knowledge score is computationally intensive (note Weller 2007). For reasons of brevity this chapter will only compare objective and subjective political knowledge for Czechoslovakia because the subject of this study is political knowledge among Czech citizens past and present.

edge across nine populations living under different institutional patterns, as outlined earlier in Figure 4.1. Within this chapter the division of countries will reflect members of rival military alliances, that is, membership of the Warsaw Treaty Organisation (or Warsaw Pact), NATO (the North Atlantic Treaty Organisation), and non-aligned or neutral countries. Within this division of countries then there are three groupings: (1) Warsaw Pact: Czechoslovakia; (2) NATO: Britain, West Germany and Norway; and (3) neutrals: Finland, Yugoslavia (Slovenia) and Spain.

## 5.2 Subjective Political Knowledge

An alternative way of interpreting a battery of factual political quiz items in a survey is to analyse these data as evidence of subjective political knowledge which may be defined as the extent to which those interviewed gave the same answer (regardless of factual correctness). In other words, subjective political knowledge is what a majority or plurality agree is a correct fact. This provides a measure of the extent to which citizens agree about the content of political knowledge, and it provides a means of estimating an individual's level of subjective knowledge. This subjective approach to evaluating factual political knowledge builds on the 'collective wisdom of crowds' effect, where groups of people tend to produce more accurate judgements than individuals do.

It is important to be aware of the limits of linking objective and subjective knowledge. Box 5.2 presents a summary of why the 'wisdom of crowds' or subjective knowledge only matches objective knowledge when specific conditions are met. This has important implications for the application of Cultural Consensus Theory in the area of political knowledge.

It is important to stress that Cultural Consensus Theory (CCT) is both a theory and a statistical methodology which specifies when collective agreement equates with knowledge. One of the key goals of this chapter is to show that the study of objective or factual political knowledge may also be explored as shared subjective knowledge. Here the correctness of subjective knowledge is defined in terms of the degree of agreement or consensus within society. The key insight here is that collective judgement can be more accurate than the individual judgements of all the members of a group, and this implies that evaluating individuals on the basis of aggregated judgements is also a reasonable way of defining political knowledge. The origins of the superiority of collective knowledge is evident, as noted in Chapter 4, in (1) mathematics through Condorcet's (1785) Jury Theorem and also (as Box 5.2 highlights) in (2) statistics with Francis Galton's (1907) studies of the distributional properties of collective guessing, which is now more popularly known as the 'wisdom of crowds' (e.g. Surowiecki 2004; Sunstein 2006).

The idea that cultural consensus can be used to create a measure of subjective political knowledge is an important one that has been little

### **Box 5.2: When does subjective knowledge (or the wisdom of the crowd) not tally with objective knowledge?**

Subjective knowledge based on statistical mechanisms such as the ‘wisdom of the crowd’ is not always correct. This is because there are four key requirements for the wisdom of the crowd effect to generate accurate forecasts: (1) diversity, (2) independence, (3) specialisation, and (4) aggregation.

#### **Diversity**

Diversity in groups is also associated with better choices. Page and Hong (2004) propose a theoretical model which showed how a group with diverse skills and knowledge could do better than a group composed of experts. Here diversity results in better decisions than narrow expertise. Sometimes having some knowledge can lead to bad choices. Other research on forecasting sporting results reveals that if individuals are over confident this can lead to more incorrect predictions (e.g. Simmons 2011). The general lesson here is that the composition of groups is very important. The more diverse a group is the more likely that the group forecast will be close to the actual answer. Lorenz et al. (2011) report that greater group diversity reduces ‘herding effects’ where there is a consensus on incorrect answers. If the group has a good initial judgement then social influence can improve the collective choice. Lorenz et al. (2011) also noted that the herding effect will be greater when groups make choices for questions where no factually correct answer is available.

#### **Independence**

The undermining effect of social influence (or lack of independence) was demonstrated in Lorenz, Rauhut and Helbing (2011), who asked participants in an experiment to estimate certain quantities in geography or crime, about which none of them could be expected to have perfect knowledge but all could hazard a guess – the length of the Swiss-Italian border, for example, or the annual number of murders in Switzerland. The participants were offered modest financial rewards for good group guesses, to make sure they took the challenge seriously. Lorenz et al. (2011) found that as the amount of information participants were given about their fellow participants’ guesses increased, the range of everyone’s guesses decreased and often moved away from the correct answer. Group consensus produced worse results. This finding is important because the democratic principle of ‘seeking consensus; may not be an effective decision-making rule. This is because of a ‘herding effect’ towards incorrect answers based on biased thinking. Just how incorrect depends on what kind of pool of opinions, or diversity, is in the group studied. Other research by King et al. (2012) reveals that not all social influence effects are negative. If individuals are told what the current best guess is during a ‘guess the number of sweets’ competition there is a convergence of estimates to the correct answer.

#### **Specialisation**

The knowledge and skills that individuals bring to group decision-making are important. Work by Tetlock (2005), Page (2007), Tetlock and Gardner (2015) highlight that having lots of experts with specialised knowledge may not help. This stream of research into expert decision-making shows that groups with a broad range of specialists produce better forecasts than experts in a single domain.

### **Aggregation**

There are many ways to combine the opinions of a group. The simplest method is to treat each person equally and find the mean or median of the group. It is possible to have more sophisticated rules where the expertise of group members is taken into account by weighting all individual's contribution to the group's forecast. Davis-Stober et al. (2014: 3) report that wisdom of crowd effects are 'robust to different types of aggregation and sampling rule...'

### **Improving subjective knowledge**

Determining when subjective knowledge, derived from crowd wisdom, is accurate requires having a definition of correct answers. One recent study evaluated the subjective knowledge of groups as 'a linear aggregate of its members' judgments of a criterion value has less expected squared error than the judgments of an individual sampled randomly, but not necessarily uniformly, from the crowd' (Davis-Stober et al. 2014: 1). Improvements in collective subjective knowledge occur if it is possible to select group members that are as different as possible from each other. Group diversity is more important for subjective knowledge than independent thinking.

explored within political science. Rather than define political knowledge a priori as the factually correct answers to questions, it is possible by making a number of assumptions to estimate a person's knowledge on the basis of the collective consensus on what a group judges is a correct fact (note, Borgatti and Carboni 2007: 455). Since collective wisdom can in specific situations have a high level of objective accuracy (note, Box 5.2), this means that the definition of what is correct using collective consensus has firm foundations in mathematical statistics and social choice theory.

The three assumptions that must be met to validly measure subjective knowledge are fulfilled using the Images of the World in the Year 2000 survey. The first assumption is that 'common knowledge' (things that are known to most people) exists and there is a culturally correct answer to all questions asked, while the differences in responses refer to individual variation in knowledge, and not the presence of distinct subpopulations. In other words, there are no multiple-answer keys to the same set of questions. The second assumption is that the responses to questions are independent, and the consensus with cultural norms is in the mind of the respondent and not the result of social pressure when others are present during the interview process. The final assumption is that the questions asked must refer to the same topic and should be of roughly equal difficulty.

Consequently, this chapter will use the analytic methods developed within the Cultural Consensus Theory (CCT) developed by William H. Batchelder, A. Kimball Romney and Susan C. Weller in the late 1980s.

CCT has been adopted in many social science disciplines and especially in cultural anthropology (e.g. Batchelder and Romney 1999; Weller 2007). In this chapter, it is agreement among pairs of respondents about membership of military alliances around 1970 that defines what will be understood as 'subjective political knowledge'. It is important to stress that objective and subjective political knowledge scores for individuals will not always be the same. Consequently, the determinants of objective and subjective political knowledge will be examined, in this chapter, in a comparative manner using the Motivation-Ability-Opportunity explanatory framework.

### **5.3 Motivation-Ability-Opportunity (MAO) Models**

Within the Images of the World in the Year 2000 survey there are questions that may be used to implement the MAO model and hence explore the determinants of both objective and subjective political knowledge. However, the unique nature of this survey, with its focus on the 15 to 40 year old cohort and on perceptions of life at the turn of the millennium mean that the models of the determinants of objective political knowledge reflect these two characteristics. The overall logic of the MAO approach to exploring the determinants of political knowledge has been briefly outlined in earlier chapters and will be dealt with in greater detail in Chapter 7. In the following subsection there is a brief overview of how an operationalisation of the MAO model using the Images of the World in the Year 2000 survey can help explain why some people have higher levels of objective and subjective knowledge. This is followed by a presentation of three hypotheses exploring the differences in the determinants of objective and subjective knowledge.

#### *5.3.1 Operationalising the MAO model*

The motivation to acquire political knowledge is operationalised in the Images of the World in the Year 2000 survey with four scales: dissatisfaction with policy, dogmatism, political interest, and religious belief and practice. The dissatisfaction with policy scale reflects a critical orientation toward public office and a propensity to acquire information in order to evaluate the activities of political representatives. In contrast, the dogmatism scale refers to a respondent's personal traits rather than to features of the political context. Here use is made of Milton Rokeach's (1948, 1956, 1960) dogmatism scale, which was used frequently in survey research during the 1950s and 1960s to measure the degree to which an individual is 'closed-minded': where a person ignores information that contradicts their views of the world.

Although the original Rokeach Dogmatism Scale was not designed to capture left-right or liberal-conservative ideological orientations, researchers found that higher scores on this dogmatism scale are positively

correlated with conservatism and a right-wing orientation (e.g. Smithers and Lobley 1978; Tetlock 1984).<sup>30</sup> With regard to objective political knowledge it is expected that there should be a negative association. This is because individuals are motivated to disregard political facts that undermine their dogmatic beliefs.

Interest in politics is measured in this chapter with a political engagement scale that uses six items to capture the degree to which a person thinks about the future by seeking information in the media and discussing such matters with friends. Being motivated to seek out information is expected to be positively correlated with level of factual political knowledge.<sup>31</sup>

The final motivation variable examined is religious belief and practice: the survey respondents indicated whether they (1) both believed and practised, (2) believed and did not practise, (3) did not believe but practised, or (4) neither practised nor believed, or indicated 'don't know, no answer'. This is an unusual question because religious belief and practice are mixed together. Most often these two facets of religion are examined separately. Here it is expected that higher levels of religious belief and practice will have a negative association with objective political knowledge. This is because strong religious beliefs can motivate a believer to avoid new information that contradicts their current beliefs. In short, religion may be the basis for motivated reasoning that unconsciously avoids exposure to news and information (Lodge and Taber 2013; Kahan 2013).

A person's ability is operationalised in this chapter in a similar manner to that presented in Chapter 4 based on level of education standardised to a four-point scale: basic, lower and upper secondary, and university for comparative analysis. Finally, opportunity effects are explored here, as in other chapters, in terms of age, sex, marital status, type of occupation (student and worker) and membership of a political organisation. The latter two explanatory variables reflect the fact that the Images of the World in the Year 2000 survey was undertaken on a young adult sample (aged 15 to 40 years). Here evidence of political organisation membership is interpreted as an opportunity for the enhanced learning of political facts.

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30 It is noted in Chapter 7 that political knowledge has been conceptualised as a cognitive system of beliefs and values where citizens with greater political sophistication have higher levels of integrated political beliefs and values. In this respect, Tetlock (1984) reported that greater dogmatism was associated with lower levels of integrated cognitive complexity. He found that legislators with moderate liberal values and lower levels of dogmatism had the highest levels of cognitive complexity. This research suggested there is a negative relationship between political knowledge and dogmatism.

31 The Images of the World in the Year 2000 survey did not include a standard single-item measure of interest in politics because this topic was a sensitive issue during the Cold War era owing to the East-West rivalry and the fear that the results might be used for propaganda purposes.

### *5.3.2 Subjective political knowledge and interest in politics*

Currently there is little research on the impact of key motivational factors such as the impact of interest in politics on subjective knowledge. By examining the central tenets of Cultural Consensus Theory (CCT), it is possible to derive some theoretical expectations about the likely impact of differences in political interest on subjective knowledge. A good summary of the essential features of CCT is given in the following extract from Oravecz, Faust and Batchelder (2014: 2–3).

A central tenet of CCT is that cultural understandings arise both through direct experience and through learning from other members of a culture. Cultural knowledge is thus a product of social context and process. As a consequence, knowledge and understanding of various content domains come to be more or less shared among members of the same culture. This being the case, we expect there to be some degree of within-culture consensus with respect to domain-specific knowledge. In sociology, this contextual view of knowledge is paralleled to some extent in the social construction of knowledge tradition of Berger and Luckmann (1966), who described how a substantial amount of knowledge is the product of society and of social processes. CCT formalizes this theoretical insight and offers quantitative measures for the level of cultural consensus in a group, for the consensus answer, and for cognitive characteristics of the members of the group. In this way, CCT models are able to directly measure cultural knowledge without a prior hypothesis as to the culturally agreed upon answers. In contrast, traditional methods for summarizing responses to knowledge-based questions usually focus on analyzing performance relative to expert established correct answers.

Unlike objective political knowledge, its collective cousin is interpersonal and a product of social processes. Therefore, individuals acquire high levels of subjective knowledge through exposure and social embeddedness rather than the motivated seeking of political news at the personal level. This suggests that there should be a negative relationship between interest in politics and subjective political knowledge because the key determinants of this form of knowledge are contextual and derive from exposure through social networks to culturally defined knowledge. This passive form of political learning contrasts sharply with an active motivated individual-level cognitive mechanism operationalised in the interest in politics survey question. These theoretical expectations lead to the following hypothesis.

H1. The relationship between interest in politics and objective political knowledge will be positive, and there will be a negative association between political interest and subjective political knowledge.

### *5.3.3 Education and different types of political knowledge*

The positive relationship between level of education and degree of objective political knowledge is most often interpreted as evidence of indi-

vidual cognitive ability to process political messages (e.g. Wolfinger and Rosenstone 1980; Rosenstone and Hansen 1993; Verba et al. 1995; Zaller 1992). With more ability comes higher knowledge. Recent research on voter turnout has cast doubt on the validity of the cognitive interpretation of education effects on political behaviour (Hillygus 2005; Tenn 2007; Kam and Palmer 2008; Highton 2009; Berinsky and Lenz 2011). These studies suggest that education reflects context-based socialisation effects often originating in families.

In other words, education creates the context in which objective political knowledge is more easily acquired through selective exposure because education reflects social status rather than skills (Nie et al. 1996; Persson 2011). A fascinating study of political knowledge among mildly mentally disabled adults in the United States found that these un-schooled hospital patients had the same level of knowledge as normal children in the fifth grade aged 10 to 11 years old (Klein and Green 1979). This unique work shows that it is possible to acquire objective political knowledge without any formal citizen-education classes. This suggests that social context is critically important for learning about politics.

With subjective political knowledge things are likely to be different because this form of knowledge is collective or social. Therefore, the cognitive skills learned in school will not matter because subjective knowledge is not primarily learned in school. In sum, it is expected that there will be contrasting education effects: positive for objective political knowledge and negative for subjective knowledge.

H2. The relationship between level of education and objective political knowledge will be positive. In contrast, there will be a negative association between education level and subjective political knowledge.

#### *5.3.4 Age and level of objective and subjective political knowledge*

Another key determinant of objective political knowledge is age. This is typically interpreted as a resource where older citizens have more experience than their younger compatriots (e.g. Delli Carpini and Keeter 1996). This 'age gap' in knowledge is observed in most surveys of objective political knowledge in a range of countries (note Dimock and Popkin 1996, Grönlund and Milner 2006).<sup>32</sup> For example, Lau and Redlawsk (2008) note that factual knowledge of politics can accumulate with age; however, this positive effect is limited to 'familiar situations' and ends when citizens reach their mid-sixties due to incapacity and illness. This latter point suggests that access to information matters. Similarly, with subjective political knowledge one would anticipate *ceteris paribus* that

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<sup>32</sup> In a small, experimental study (n=280 adults, 18–30 years) conducted in Córdoba, Argentina, Brussino et al. (2011) found that older age was not positively correlated with higher political knowledge.

younger people would have a wider circle of friends and acquaintances and hence greater access to subjective political knowledge (Morgan 1988; van Tilburg 1998; Cornwell 2011). For these reasons, it is expected that older citizens will on average have higher levels of objective knowledge and younger citizens will in contrast have greater levels of subjective knowledge. This leads to the following hypothesis.

H3. The association between age and objective political knowledge will be positive, and will be negative for subjective political knowledge.

It is important to point out a limitation in the Images of the World in the Year 2000 survey data used in this book, which is that the respondents were aged between 15 and 40 years old, and the knowledge studied is that of a younger cohort. This restricts, or biases, the study of cognitive ageing effects. Here there are two perspectives. The first argues that cognitive (and knowledge) decline is continuous from early adulthood (Salthouse 2004). In contrast, the second one contends that significant cognitive decline is only apparent after 60 years old (Schaie 2005). The main message from these cognitive ageing theories for this chapter is that possession of subjective knowledge is independent of cognitive ageing processes and reflects growing social isolation with ageing.

### *5.3.5 The gender gap and objective and subjective political knowledge*

The final opportunity factor shaping the level of political knowledge examined here is gender. Lower levels of factual knowledge among women have been reported since the late 1940s across many countries suggesting the gender gap in knowledge is a universal phenomenon (Delli Carpini and Keeter 1996; Dimock and Popkin 1996; Grönlund and Milner 2006). This gender gap is a puzzle and there is currently no definitive explanation of how and why a gender gap in factual political knowledge emerges in adolescence.

One answer proposed is that the gender gap is an artefact of how objective political knowledge is measured (Mondak and Anderson 2004). Another answer is that this particular gender gap has biological origins: from an early age boys tend to be interested in objects, while girls are attentive to people (Baron-Cohen 2003; Su et al. 2009). This suggests that men will score better on objective knowledge quizzes because they like collecting abstract information. In contrast, women, with greater social skills, will do better on subjective knowledge scales. This leads to the following expectation.

H4. The gender gap evident for objective political knowledge, where men know more than women, will reverse for subjective political knowledge.

## 5.4 Modelling Objective and Subjective Political Knowledge

The survey data used in this chapter is unique in facilitating a study of political knowledge in Czechoslovakia during the Cold War. However, it is important to highlight that this Images of the World in the Year 2000 survey has two important characteristics and limitations. First, this survey was fielded in eleven countries between 1967 and 1970 and examined the perceptions of the younger generation (15 to 40 years old) of the future and attitudes toward war, peace and disarmament. Second, within this book analysis is restricted to the nine national samples that asked political knowledge questions: the Czech and Slovak Republics (both part of Czechoslovakia between 1918 and 1992), West Germany (FRG, 1949–1990), Great Britain, Norway, Netherlands, Spain, Finland and Slovenia (part of Yugoslavia between 1945 and 1990). Therefore, the analyses of knowledge effects presented in this chapter refer to a specific subset of European countries.

More specifically, in the Images of the World in the Year 2000 survey data set there is only one Warsaw Treaty Organisation country: Czechoslovakia. This is because there are no knowledge data available for Poland. The other East European countries examined in the Images of the World in the Year 2000 survey, i.e. Finland and Yugoslavia (Slovenia), were not members of the Warsaw Pact. Before looking at the results, it is important first to make some comments about the models estimated.

It was noted in Chapter 4 that the dependent variable is an Item Response Theory (IRT) model of the correct responses to sixteen questions that inquired into membership of the (a) Warsaw Treaty Organisation, (b) the North Atlantic Treaty Organisation (NATO), or (c) neither of these international military organisations. International military alliance membership mirrored the East-West, or capitalist and socialist, rivalry that defined the Cold War period (1945–1990). Here knowledge of ‘who went with who’ provides a reasonable indicator of an individual’s knowledge of international affairs during the late 1960s.

### *5.4.1 Objective knowledge in a Warsaw Treaty member state*

The determinants of objective or factual political knowledge in Czechoslovakia are explored in three separate models shown in Table 5.1. This is because previous research revealed different attitudes among Czechs and Slovaks (Lyons 2009, 2013). Table 5.1 shows that this is indeed the case. For example, policy dissatisfaction and membership of a political organisation is a significant ( $p \leq .05$ ) determinant of knowledge among Czechs, but not among Slovaks. Conversely, religious beliefs and practice and age have significant effects ( $p \leq .05$ ) among Slovaks, but not among Czechs.

In the Czechoslovak model on the right of Table 5.1, policy dissatisfaction, political engagement and age are all associated with higher

**Table 5.1: A comparison of models of the determinants of objective political knowledge in a Warsaw Treaty Organisation country**

<i>Models and variables</i>	<i>Czechs</i>		<i>Slovaks</i>		<i>Czechoslovakia</i>	
	<i>B</i>	<i>Sig</i>	<i>B</i>	<i>Sig</i>	<i>B</i>	<i>Sig</i>
<i>Motivation</i>						
Policy dissatisfaction	<b>.14</b>	<.001	.03	.522	<b>.11</b>	<.001
Dogmatism	<b>-.07</b>	.029	-.03	.505	<b>-.06</b>	.012
Political engagement	<b>.09</b>	<.001	<b>.17</b>	<.001	<b>.11</b>	<.001
Religious belief & practice	-.01	.332	<b>-.05</b>	.042	-.02	.113
<i>Ability</i>						
Education	.04	.355	.15	.146	.06	.154
<i>Opportunity</i>						
Married	-.02	.220	-.01	.802	-.01	.236
Age	.03	.177	<b>.12</b>	.004	<b>.05</b>	.012
Sex (female=1)	<b>-.09</b>	<.001	<b>-.07</b>	<.001	<b>-.09</b>	<.001
Student	-.02	.292	.03	.413	-.01	.580
Worker	<b>-.05</b>	<.001	-.03	.166	<b>-.05</b>	<.001
Member of a political group	<b>.03</b>	.025	-.04	.130	.02	.140
Intercept	.51	<.001	.42	<.001	.50	<.001
R <sup>2</sup>	.18		.17		.16	
Adjusted R <sup>2</sup>	.17		.14		.15	
SEE	.15		.16		.15	
F statistic (df=11)	16.68		5.84		20.50	
N	853		324		1178	

Source: Images of the World in the Year 2000 surveys, 1967–1970

Note the dependent variable is level of objective political knowledge operationalised using a two-part logistic (2PL) IRT model of correct versus all other responses (i.e. incorrect and don't know) for 16 knowledge questions relating to membership of the Warsaw Treaty Organisation, NATO or being non-aligned. Parameters are estimated using ordinary least squares (OLS). All variables have been rescaled to 0–1 in order to facilitate comparison across variables. To assist comparison across country models all coefficients are unstandardised. Estimates in bold are significant at  $p \leq .05$  level.

**Table 5.2: A comparison of models of the determinants of objective political knowledge in NATO countries**

<i>Models and variables</i>	<i>Britain</i>		<i>FRG</i>		<i>Norway</i>		<i>Netherlands</i>	
	<i>B</i>	<i>Sig</i>	<i>B</i>	<i>Sig</i>	<i>B</i>	<i>Sig</i>	<i>B</i>	<i>Sig</i>
<i>Motivation</i>								
Policy dissatisfaction	<.01	.971	<b>.07</b>	<.001	.04	.223	<b>.13</b>	<.001
Dogmatism	<b>-.15</b>	<.001	<b>-.09</b>	<.001	<b>-.11</b>	.004	<b>-.18</b>	<.001
Political engagement	<b>.10</b>	<.001	<b>.07</b>	<.001	.04	.155	<b>.15</b>	<.001
Religious belief & practice	.02	.102	NA	NA	.02	.353	NA	NA
<i>Ability</i>								
Education	NA	NA	<b>.09</b>	<.001	<b>.08</b>	.001	<b>.13</b>	<.001
<i>Opportunity</i>								
Married	.02	.188	.01	.319	<b>-.04</b>	.041	-.01	.503
Age	<b>.10</b>	<.001	<b>.03</b>	.040	<b>.07</b>	.008	NA	NA
Sex (female=1)	<b>-.10</b>	<.001	<b>-.07</b>	<.001	<b>-.10</b>	<.001	NA	NA
Student	.02	.212	-.01	.362	<.01	.962	NA	NA
Worker	<b>-.03</b>	.012	<b>-.02</b>	.063	<b>-.04</b>	.032	<b>.04</b>	.006
Member of a political group	<b>.07</b>	.036	<b>.04</b>	.031	.03	.179	<b>.07</b>	.020
Intercept	.59	<.001	.51	<.001	.58	<.001	.46	<.001
R <sup>2</sup>	.19		.17		.19		.27	
Adj. R <sup>2</sup>	.18		.16		.17		.26	
SEE	.15		.15		.15		.14	
F statistic (df=11)	22.61		4.51		11.08		34.03	
N	989		2052		538		666	

Source: Images of the World in the Year 2000 surveys, 1967–1970

Note the dependent variable is level of objective political knowledge operationalised using a two-part logistic (2PL) IRT model of correct versus all other responses (i.e. incorrect and don't know) for 16 knowledge questions relating to membership of the Warsaw Treaty Organisation, NATO or being non-aligned. FRG refers to the Federal Republic of (West) Germany. Parameters are estimated using ordinary least squares (OLS). All variables have been rescaled to 0–1 in order to facilitate comparison across variables. To assist comparison across country models all coefficients are unstandardised. Estimates in bold are significant at  $p \leq .05$  level.

levels of factual knowledge. In contrast, having a dogmatic personality, being female and being a worker are associated with lower knowledge scores. One of the surprising features of the models presented in Table 5.1 is that level of education does not show significant effects ( $p \leq .05$ ) in any of the models estimated. However, informational factors such as being dissatisfied with public policy exhibit the strongest effects ( $b = .11$ ,  $p \leq .001$ ). Overall, the evidence in Table 5.1 suggests that objective political knowledge was shaped by both motivation and opportunities in Czechoslovakia in June 1967.

#### *5.4.2 Determinants of objective political knowledge in four NATO countries*

One of the main findings evident from Table 5.2 is that there is only one significant effect ( $p < .05$ ) across all four country models: the negative relationship between dogmatism and factual knowledge. As predicted, education, age, and sex (male) have consistently positive effects; however, each of these socio-demographic questions was not asked in one or more countries. Consequently, there are limits on the inferences that may be derived from the results in Table 5.2.

With this caveat in mind, the motivation model for political knowledge shows broadly similar positive effects (although not always statistically significant at  $p \leq .05$ ) for policy dissatisfaction and religious beliefs and practices. There is an interesting contrasting religion effect, which is negative in Czechoslovakia, but positive (and non-significant) in Britain and Norway: both countries were mainly protestant (Anglican and Evangelical Lutheran) in 1970. For ability, the impact of education, as noted above, is positive and significant in all NATO countries where respondents' level of schooling was recorded. Opportunity effects are consistently positive for age and negative for being female. Being a worker was only positively associated with higher political knowledge in the Netherlands, which probably reflects the specificities of Dutch politics of the late 1960s (see Wolinetz 1989: 88).

Curiously, there is no student effect in any of the nine country models tested. This may reflect the mixed education levels of this 'young cohort' ranging from high school to graduate studies. Similar to Czech results presented in Table 5.1, being a member of a political organisation also had a 'knowledge effect' in all NATO countries except Norway. Overall, in NATO countries the determinants of objective political knowledge reflected motivation, ability and opportunity effects, with variations across countries reflecting differences in surveys and socio-political conditions.

#### *5.4.3 Determinants of factual political knowledge in non-aligned countries*

The final set of models examined in Table 5.3 explores the determinants of factual political knowledge in three officially non-aligned countries,

i.e. Finland, Yugoslavia (Slovenia), and Spain in 1970. There are some consistent effects across all neutral countries. With regard to motivation effects, dissatisfaction with policy and engagement with politics both have significant positive effects ( $p \leq .05$ ), while dogmatism has significant negative effects (except in Slovenia). The negative relationship between religion and factual knowledge in Spain suggests that conservative Catholics (under) General Franco's authoritarian regime (1936–1975) paid little attention to the Cold War.

As expected, being male has consistently positive effects, as does age and membership of a political organisation, although these effects are not always statistically significant ( $p \leq .05$ ). Being a worker is associated with lower than average levels of political knowledge and being a student has positive but insignificant effects. The Spanish model has a relatively high level of explained variance (Adj.  $R^2 = .30$ ), suggesting some methodological effect due to a high level of 'don't know, no answer' responses; however, the level of explained variance in Finland is higher (Adj.  $R^2 = .32$ ) indicating that the model estimates presented in Table 5.3 are reasonable.

#### *5.4.4 An overview of the determinants of knowledge during the Cold War*

Overall, MAO models of the determinants of objective political knowledge about national membership of the rival Cold War military alliances show no major systematic differences (a) across the Iron Curtain or (b) between aligned and neutral states. This result is important because it indicates that the potential regime differences, summarised earlier in Figure 4.2, do not appear to result in systematic variation in the determinants of knowledge at the individual level.

One important common feature of all the models presented in Tables 5.1 to 5.3 is the consistently strong impact of three individual-level factors: dogmatism, interest in politics, and level of education. Equally important is the influence of differences in opportunity reflected in age and sex, regardless of whether a country was communist, capitalist, or a member of NATO or the Warsaw Treaty. In short, there were some universal features in what shaped who had low and high levels of factual political knowledge during the Cold War in Europe.

A more systematic overview of the significant effects for the determinants of knowledge across the Cold War divide is provided in Table 5.4. This table clearly shows that motivation and ability factors (in the MAO explanatory framework) had the most consistent impact on explaining individual-level differences in political knowledge in the mixed set of countries with the various political, economic, military and technological characteristics described earlier in Figure 4.2. In sum, national context appears to have had limited effects in shaping level of factual knowledge across the Cold War divide. More will be said on this point later in Chapter 12 with regard to multilevel modelling.

**Table 5.3: A comparison of models of the determinants of objective political knowledge in non-aligned countries**

<i>Models and variables</i>	<i>Finland</i>		<i>Slovenes</i>		<i>Spain</i>	
	<i>B</i>	<i>Sig</i>	<i>B</i>	<i>Sig</i>	<i>B</i>	<i>Sig</i>
<i>Motivation</i>						
Policy dissatisfaction	<b>.03</b>	.368	<b>.07</b>	.007	<b>.06</b>	<.001
Dogmatism	<b>-.21</b>	<.001	-.05	.131	<b>-.10</b>	<.001
Political engagement	<b>.15</b>	<.001	<b>.05</b>	.091	<b>.08</b>	<.001
Religious belief & practice	-.03	.152	-.01	.406	<b>-.03</b>	.024
<i>Ability</i>						
Education	<b>.12</b>	<.001	<b>.09</b>	<.001	<b>.12</b>	<.001
<i>Opportunity</i>						
Married	.01	.693	-.01	.733	<b>-.02</b>	.037
Age	<b>.05</b>	.109	.02	.449	<b>.03</b>	.030
Sex (female=1)	<b>-.09</b>	<.001	<b>-.11</b>	<.001	<b>-.06</b>	<.001
Student	.03	.105	<.01	.828	<.01	.672
Worker	-.02	.121	<b>-.04</b>	.003	<b>-.04</b>	<.001
Member of a political group	.02	.645	<b>.04</b>	.020	<b>.04</b>	.008
Intercept	.60	<.001	.60	<.001	.64	<.001
R <sup>2</sup>	.34		.25		.31	
Adj. R <sup>2</sup>	.32		.24		.30	
SEE	.14		.14		.12	
F statistic (df=11)	22.02		18.01		73.54	
N	491		600		1836	

Source: Images of the World in the Year 2000 surveys, 1967–1970

Note the dependent variable is level of objective political knowledge operationalised using a two-part logistic (2PL) IRT model of correct versus all other responses (i.e. incorrect and don't know) for 16 knowledge questions relating to membership of the Warsaw Treaty Organisation, NATO or being non-aligned. Parameters are estimated using ordinary least squares (OLS). All variables have been rescaled to 0–1 in order to facilitate comparison across variables. To assist comparison across country models all coefficients are unstandardised. Estimates in bold are significant at  $p \leq .05$  level.

**Table 5.4: A comparison of models of the determinants of objective political knowledge across the Cold War divide**

<i>Models</i>	<i>Warsaw Treaty member</i>		<i>NATO member state in 1967–1970 period</i>				<i>Non-aligned militarily</i>		
	<i>CSR</i>	<i>SSR</i>	<i>FRG</i>	<i>GB</i>	<i>NOR</i>	<i>NET</i>	<i>SPA</i>	<i>FIN</i>	<i>SLO</i>
<i>Motivation</i>									
Policy dissatisfaction	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	No	No	<b>Yes</b>	<b>Yes</b>	No	<b>Yes</b>
Dogmatism	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	No
Political engagement	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	No	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	No
<i>Ability</i>									
Education	No	No	<b>Yes</b>	NA	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>
<i>Opportunity</i>									
Married	No	No	No	No	<b>Yes</b>	No	<b>Yes</b>	No	No
Age	<b>Yes</b>	No	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	NA	<b>Yes</b>	No	No
Sex (female=1)	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	NA	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>
Religious belief	No	No	NA	No	No	NA	<b>Yes</b>	No	No
Student	No	No	No	No	No	NA	No	No	No
Worker	<b>Yes</b>	<b>Yes</b>	No	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	No	<b>Yes</b>
MPG	No	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	No	<b>Yes</b>	<b>Yes</b>	No	<b>Yes</b>
<i>Adjusted R<sup>2</sup> (%)</i>	<i>15</i>	<i>17</i>	<i>16</i>	<i>18</i>	<i>17</i>	<i>26</i>	<i>30</i>	<i>32</i>	<i>24</i>

Source: Images of the World in the Year 2000 surveys, 1967–1970

Legend – CSR: Czech Socialist Republic; SSR: Slovak Socialist Republic; FRG: Federal Republic of Germany (West Germany); SPA: Spain; GB: Great Britain; NOR: Norway; NET: Netherlands; FIN: Finland; SLO: Slovenia (Yugoslavia); and MPG refers to a member of a political group.

Note the dependent variable is level of objective political knowledge operationalised using a two-part logistic (2PL) IRT model of correct versus all other responses (i.e. incorrect and don't know) for 16 knowledge questions relating to membership of the Warsaw Treaty Organisation, NATO or being non-aligned. Parameters are estimated using ordinary least squares (OLS). All variables have been rescaled to 0–1 in order to facilitate comparison across variables. Yes in bold refers to parameters that are significant ( $p \leq .05$ ); 'No' indicates coefficients that have a statistical significance  $p \geq .05$ ; and NA designates 'not applicable' as the question was not asked.

Within Czechoslovakia level of education was not a significant predictor ( $p \leq .05$ ) of level of political knowledge immediately prior to the Prague Spring era. This is surprising and may be related to the age profile (15–40 years) of the sample: all of the younger cohort were equally knowledgeable about Cold War military alliances perhaps because of compulsory military service. A landmark study of social stratification in Czechoslovakia in the autumn of 1967 found that while this society was very equal with regard to wage income there were significant social differences relating to such things as lifestyle, complexity of work, and access to power (Machonin et al. 1969; Brokl 1969).

This contemporaneous survey work with the Czechoslovak wave of the Images of the World in the Year 2000 survey (June 1967) suggests that the education explanatory variable (used here as a proxy for cognitive ability) effects may have operated differently in Czechoslovakia. This was due to the Communist Party's (KSČM) social engineering policies aimed at creating a specific 'democratic centralist' regime type (for overviews, see Lyons 2009, 2013).

### **5.5 Determinants of Subjective Political Knowledge**

It was noted earlier that the Cultural Consensus Theory (CCT) approach to measuring subjective political knowledge is particularly appropriate with mass surveys because (1) all respondents are asked a series of identical questions posed in the same manner, (2) each respondent provides answers independently of all others interviewed, and (3) there are single answers to the set of questions asked to all respondents thereby allowing for the resulting answer data to have an underlying structure that may be examined with Exploratory Factor Analysis (EFA, principal factoring without rotation).

The resulting factor scores from an EFA of the matrix of agreement coefficients estimated from all pairs of respondents where a minimum residual factoring method is used to estimate a solution using a transposed data set. Here the knowledge questions are cases and the respondents are columns or variables. For a solution to be valid a single factor must be present where the ratio between the first and second and eigenvalues is large ( $\geq 3$ ).

It is important to highlight that for the Czechoslovak data the correlation between objective (factual) and subjective (consensus) knowledge is not high, i.e.  $r = .26$ ,  $p \leq .001$ . This low correlation is important for two reasons. First, plurality or majority answers for many questions do not always match factual correctness. For Czechoslovakia, in 9 out of the 16 questions the majority opinion differed from what was objectively correct in 1967. Second, the determinants of objective and subjective knowledge are likely to have different foundations in the MAO explanatory framework.

**Table 5.5: A comparison of models of the determinants of objective and subjective political knowledge in Czechoslovakia, June 1967**

<i>Explanations</i>	<i>Czechs (n=853)</i>				<i>Slovaks (n=324)</i>			
	<i>Objective</i>		<i>Subjective</i>		<i>Objective</i>		<i>Subjective</i>	
	<i>B</i>	<i>Sig</i>	<i>B</i>	<i>Sig</i>	<i>B</i>	<i>Sig</i>	<i>B</i>	<i>Sig</i>
<i>Motivation</i>								
Interest in politics	<b>.07</b>	.003	<b>-.06</b>	.026	<b>.15</b>	.001	-.07	.116
Policy dissatisfaction	<b>.21</b>	<.001	.04	.436	<b>.12</b>	.068	.10	.195
Dogmatism	<b>-.08</b>	.014	.04	.295	-.02	.750	-.06	.282
Interpersonal trust	<b>-.05</b>	.005	.01	.571	.01	.855	.02	.592
Trust in national leaders	<b>.08</b>	.007	.05	.168	<b>.10</b>	.026	.04	.372
<i>Ability</i>								
Education	.05	.318	-.08	.119	<b>.19</b>	.007	-.21	.158
<i>Opportunity</i>								
Age	.02	.518	-.03	.185	<b>.11</b>	.006	-.02	.587
Sex (female)	<b>-.10</b>	<.001	<b>.02</b>	.073	<b>-.08</b>	<.001	.02	.425
Student	-.01	.509	-.01	.650	.03	.371	<.01	.939
Worker	<b>-.06</b>	<.001	-.01	.729	-.03	.261	-.01	.772
MPG	<b>.04</b>	.009	-.01	.608	-.02	.430	.03	.345
Intercept	.52	<.001	.74	<.001	.35	<.001	.84	<.001
Model fit:								
R <sup>2</sup>	.19		.02		.17		.03	
Adj. R <sup>2</sup>	.18		.01		.14		<.01	
Log-likelihood	335		241		118		86	
AIC	-646		-458		-211		-149	
BIC	-589		-401		-166		-103	

Source: Images of the World in the Year 2000 surveys, Czechoslovak wave, June 1967, n=1187

Note the dependent variable is level of objective political knowledge operationalised using a two-part logistic Item Response Theory (2PL IRT) model of correct versus all other responses (i.e. incorrect and don't know) for 16 knowledge questions relating to membership of the Warsaw Treaty Organisation, NATO or being non-aligned. Parameters are estimated using ordinary least squares (OLS) with robust standard errors, i.e. Huber-White sandwich estimators. All variables have been rescaled to 0-1 in order to facilitate comparison across variables. To assist comparison across country models all coefficients are unstandardised. MPG refers to a member of a political group. The AIC and BIC statistics facilitate comparing fit across models.

The MAO modelling results presented in Table 5.5 reveals that the determinants of objective and subjective forms of citizens' political knowledge are distinct. There is only one factor, interest in politics, shown in the top of Table 5.5, where there are similar significant effects ( $p \leq .05$ ) for both types of political knowledge in the Czech and Slovak samples.<sup>33</sup> It is likely that it is this interpersonal aspect common to both objective and subjective political knowledge that accounts for the limited correlation between these two types of knowledge. This common determinant of objective and subjective knowledge is limited to the Czech sample, indicating an important difference in the way in which political messages were disseminated in both countries.

More generally, there is evidence in support of the four hypotheses outlined in Section 5.3, where it was predicted that there would be contrasting effects for (1) motivational factors operationalised with interest in politics; (2) ability measured with level of education; and (3) opportunities for finding out about politics measured in terms of age and sex, etc. Table 5.5 shows that there are always the predicted effects; however, they are not always statistically significant ( $p \leq .05$ ). Moreover, the hypotheses appear to apply equally well to the Czech and Slovak samples despite differences in size and national political culture. Overall, the explained variance of the determinants of subjective political knowledge model is close to zero ( $\text{Adj. } R^2 = .01$ ) while that for objective knowledge is much higher ( $\text{Adj. } R^2 = .17$ ). This suggests, as the regression model diagnostics reveal, that the subjective political knowledge is misspecified as important explanatory variables missing from the model. This is an obvious area for future theoretical and empirical research.

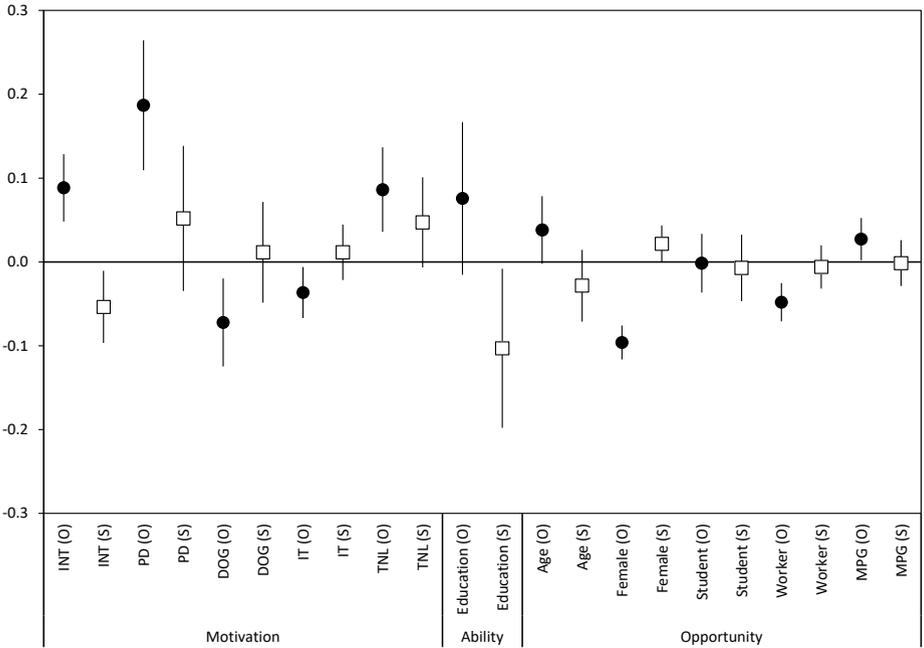
It is much easier to compare the model parameters presented in Table 5.5 for the determinants of objective and subjective political knowledge in a graphical manner as presented in Figure 5.1. In this figure the different positive and negative effects plus the 95% confidence intervals are shown. Figure 5.1 clearly shows strong contrasting effects for the four hypotheses tested: interest in politics (INT), education, age and sex (female) regarding objective and subjective political knowledge. In short, all four hypotheses presented earlier are confirmed.

Figure 5.1 shows more clearly than Table 5.5 that many factors such as interpersonal trust (IT), being a student or worker, and membership of a political group (MPG) have weak effects. In contrast, other factors such as policy dissatisfaction (PD) and dogmatism (DOG) only help to explain objective knowledge and have little or no impact on discriminating between individuals with low and high levels of subjective political

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33 It is important to highlight that the OLS regression models for subjective knowledge reported in Table 5.5 have problems with omitted variable bias, heteroscedasticity and correlation between individual cases. However, these problems are not sufficiently serious to undermine the exploratory nature of the models presented.

**Figure 5.1: A comparison of model parameters for objective and subjective political knowledge, Czechoslovakia (1967)**



Source: Images of the World in the Year 2000 survey, Czechoslovak wave, June 1967 (n=1187)

Note that solid black circles refer to 'objective' knowledge (O) parameter estimates with 95% confidence intervals (vertical line), and the white squares indicate coefficient estimates for 'subjective' (S) political knowledge. Overlapping parameter effects and placement close to zero indicate little difference across the two types of political knowledge examined and weak effects respectively.

Legend: INT: Interest in politics; PD: Policy dissatisfaction; DOG: Dogmatism; PE: Political engagement; IT: Interpersonal trust: attitudinal; TNL: Trust in national leadership; Sex: Female=1; and MPG: Member of a political group.

knowledge. Taken together Table 5.5 and Figure 5.1 reveal that both objective and subjective political knowledge are determined by MAO effects. However, these two sets of MAO effects operate in a qualitatively different manner because objective knowledge has individual and cognitive foundations, while subjective knowledge has collective and social network origins.

## Conclusion

In exploring the determinants of objective and subjective political knowledge in Czechoslovakia in June 1967 this chapter has shown how different conceptions of political knowledge have contrasting origins and natures. The empirical results presented highlight that the theory behind political knowledge and its measurement matters. This is because individuals who score highly on objective knowledge indicators tend not to do so well with a subjective knowledge scale. Normatively, this means that equating citizen competence with objective or factual knowledge misses an important alternative subjective facet of political knowledge that is based on social networks.

This subjective basis for political knowledge may be more important in the day-to-day workings of politics because many public policy questions do not have objective factual answers. Consequently, citizens' abilities to decipher through their social networks what is the consensus view on topics of collective concern may be (1) a key basis for generating social cohesiveness and the basis for collective action and (2) the signal to decision-making elites about what 'the people' think is appropriate. The models comparing the determinants of objective and subjective political knowledge clearly show different channels and mechanisms are at work among citizens. The key point here is that the correlates of a competent citizen from the objective political knowledge viewpoint are different for subjective knowledge.

This means that poor evaluations of citizen knowledge may be misplaced because individuals can and do score differently on the objective and subjective facets of political knowledge. This chapter has shown that objective and subjective political knowledge are only correlated to a limited degree. In reality, objective and subjective political knowledge are undoubtedly interlinked where a citizen knows both facts and what others are thinking. Here one can begin to see how individuals with lots of factual knowledge, and with a reputation for being informed, can influence other people.

In this respect, the 'two-step information flow' model of political communication provides an account of how this might happen (Lazarsfeld et al. 1944; Katz and Lazarsfeld 1955). Here 'opinion leaders' who are factually knowledgeable influence their family, friends, neighbours and co-workers through interpersonal communication. Political news is transmitted to most citizens in two steps: first news is interpreted by factually knowledgeable opinion leaders who secondly inform those around them about what this news means. This two-step information process could be one mechanism through which subjective political knowledge becomes established. Since the association between objective and subjective political knowledge is imperfect, this indicates that the influence of opinion leaders is limited.

In the next chapter the idea that political knowledge has a number of facets will be expanded further to encompass objective, implicit and

interpersonal facets. Interpersonal political knowledge refers to the reputation that a person has for being knowledgeable and is measured in survey interviews by the interviewer on the basis of their evaluation of the respondent. Interpersonal knowledge may be the basis for opinion leadership and the link between objective and subjective knowledge described above. In Chapter 6 these three facets of political knowledge will be examined using a special national survey fielded in late 2012. The MAO explanatory framework will be utilised, as in this chapter, to make a comparative study of the foundations of the objective, implicit and interpersonal aspects of political knowledge.

# Chapter 6: Implicit and Interpersonal Political Knowledge

From various divisions of cognitive neuroscience, we know that implicit and explicit learning are distinct processes, that humans have separate implicit and explicit memory systems, that there are different types of knowledge of and about language, that these are stored in different areas of the brain, and that different educational experiences generate different types of knowledge.

Nick C. Ellis (2008: 120)

How much do we know at any time? Much more, or so I believe, than we know we know! But we cannot break through to that subterranean knowledge. It is there, but we cannot reach it.

Agatha Christie, *The Moving Finger* (1942, 2007: 163)

## Introduction

Political knowledge is most often viewed as the ‘objective’ possession of factual knowledge that may be recalled under specific circumstances (such as a survey interview) in order to make an informed decision such as voting in an election. In reality most citizens know few facts about politics and the difference between those who are informed and all others is large. What this means is the majority of people who vote in elections are casting ballots with low levels of factual knowledge. This raises an important question: how do uninformed citizens select candidates or parties when in the polling booth?

Some of the answers proposed were outlined earlier in the Introduction and subsequently in Chapters 1, 3 and 5. In these chapters, one of the arguments outlined was that uninformed voters use heuristics, or simple decision-making strategies, to help them get a ‘correct’ answer without knowing many facts. These heuristics can be as straightforward as asking a trusted family member or friend with a reputation for being knowledgeable about public affairs for advice. In this chapter, an alternative answer to the question posed above will be presented that argues that citizens may use social skills that have served them well in daily interactions. For example, people evaluate the trustworthiness of others on the basis of appearance: does a person have an ‘honest’ or ‘intelligent’ face?

The ability to judge the competence of others using only visual information, such as facial appearance or a photographic image, is a method frequently used by most people in their daily lives when dealing with strangers. This situation of uncertainty, where snap decisions are made with low levels of knowledge on the basis of whatever ‘useful’ information might be available, occurs daily. Consequently, when voters are considering which candidate to support in an election they may, in the absence of factual knowledge about the candidates’ history in public

life, or policy positions, may decide how to cast their ballot on the basis of which candidate looks most competent. Here use is made of election campaign photographs that are often displayed close to polling stations and in many public areas.

This use of facial evaluations to decide how to vote, in the absence of little or no factual knowledge, is a circumstance in which citizens use ‘implicit knowledge’. This form of knowledge is based on a ‘knowing-by-doing’ (procedural knowledge) skill that individuals often have difficulty in describing in a coherent way to others. Implicit knowledge, unlike objective, or factual, knowledge, is difficult to measure in a mass survey. This is because respondents are typically unable to say exactly how they knew which candidate was most competent using only a photograph.

This chapter will show that implicit knowledge is distributed among citizens in a similar way to objective (factual) knowledge, where some people have low levels, most intermediate levels, and a small number a high level. With regard to who have more implicit knowledge, a comparative method is used with objective and interpersonal knowledge. The latter is a form of knowledge based on having a reputation for being informed, of which more will be said later. All three types of knowledge are examined using the Motivation-Ability-Opportunity (MAO) explanatory framework used in previous chapters. The comparative MAO modelling results reveal that implicit knowledge is unique in having no motivational foundations, being negatively related to ability, but being positively associated with the size of community in which a person lives.

The argument presented in this chapter starts in Section 1 with a motivating example, and this is followed in Section 2 by an overview of objective and interpersonal forms of political knowledge. Section 3 introduces the idea of implicit knowledge which is characterised by its pre-cognitive nature that fits best with a procedural (rather than declarative) conception of knowledge discussed in earlier chapters. Later, in Section 4, there is a discussion of the determinants of these three types of knowledge. The penultimate section presents the modelling results, and in the final section there are some concluding comments.

## **6.1 A Motivating Example... Holme’s Theory of Knowledge**

Does it make sense to think that citizens employ different learning strategies to gather and evaluate political information depending on their level of interest in politics and the social context within which they live their daily lives? One way of answering this question is to think about a person who has a reputation for deductive decision-making based on a close examination of the evidence – perhaps someone like the fictional detective character Sherlock Holmes. This is the kind of person that would be an example to all voters facing polling day. It

### Box 6.1: Sherlock Holmes' pragmatic theory of knowledge

If there was a trivial pursuit quiz where a question asked 'Who is the most clever fictional detective in the world?' it is likely that many people would reply: 'It's Sherlock Holmes, of course!' Many readers are probably less aware that Holme's theory of knowledge appeared in Arthur Conan Doyle's first novel, *A Study in Scarlet*, published in Beeton's Christmas Annual in late 1887. In Chapter 2 of this first Sherlock Holmes novel, there is an outline of Sherlock's style of thinking which is famously logical and forensic. Here it is often assumed that Sherlock Holmes was well-educated and had an encyclopedic knowledge. This turns out not to be correct as the following excerpt shows.

*His [Sherlock Holmes] ignorance was as remarkable as his knowledge. Of contemporary literature, philosophy and politics he appeared to know next to nothing. Upon my quoting Thomas Carlyle, he inquired in the naivest way who he might be and what he had done. My [Dr John Watson] surprise reached a climax, however, when I found incidentally that he was ignorant of the Copernican Theory and of the composition of the Solar System. That any civilized human being in this nineteenth century should not be aware that the earth travelled round the sun appeared to be to me such an extraordinary fact that I could hardly realize it.*

*'You appear to be astonished,' he said, smiling at my expression of surprise. 'Now that I do know it I shall do my best to forget it.'*

*'To forget it!'*

*'You see,' he explained, 'I consider that a man's brain originally is like a little empty attic, and you have to stock it with such furniture as you choose. A fool takes in all the lumber of every sort that he comes across, so that the knowledge which might be useful to him gets crowded out, or at best is jumbled up with a lot of other things so that he has a difficulty in laying his hands upon it. Now the skilful workman is very careful indeed as to what he takes into his brain-attic. He will have nothing but the tools which may help him in doing his work, but of these he has a large assortment, and all in the most perfect order. It is a mistake to think that that little room has elastic walls and can distend to any extent. Depend upon it there comes a time when for every addition of knowledge you forget something that you knew before. It is of the highest importance, therefore, not to have useless facts elbowing out the useful ones.'*

*'But the Solar System!' I protested.*

*'What the deuce is it to me?' he interrupted impatiently; 'you say that we go round the sun. If we went round the moon it would not make a pennyworth of difference to me or to my work.'*

*I was on the point of asking him what that work might be, but something in his manner showed me that the question would be an unwelcome one. I pondered over our short conversation, however, and endeavoured to draw my deductions from it. He said that he would acquire no knowledge which did not bear upon his object. Therefore all the knowledge which he possessed was such as would be useful to him.*

Arthur Conan Doyle, (1887) *A Study in Scarlet*

This early Sherlock Holmes novel presents (a) one of the clearest examples of the 'pragmatic theory of knowledge' presented in Chapter 1, and (b) support for a procedural or implicit conception of knowledge explored in this chapter. Within the context of this book the key message is that factual (objective or declarative) knowledge is not the only basis for being a 'political detective', and having the ability as an enfranchised citizen to use the vote to 'throw out the rascals' on polling day.

turns out that Sherlock Holmes, by his own admission, did not believe in having encyclopedic knowledge. Rather, Holmes believed in having the appropriate detective skills (procedural knowledge) for solving cases and learning the facts necessary to make sense of the clues. In other words, Sherlock Holmes used a form of implicit knowledge to solve crimes.

Box 6.1 shows that one of the most logical and forensic detectives in English fiction, Sherlock Holmes, declared that he did not believe in knowing lots of ‘useless’ facts. Sherlock outlined a ‘pragmatic theory of knowledge’ (see Chapter 1), which argues that human cognitive powers are limited and should be used efficiently by focussing on information that helps to answer practical real-world questions of importance.

The intriguing point here is that if Sherlock Holmes were asked political knowledge questions in a survey interview, he would have done quite badly and been classified as a ‘know-nothing’. This counterfactual highlights an important point with the interpretation and use of factual political knowledge questions: possession of factual knowledge is not the only basis for making political choices. By exploring three different types of political knowledge in terms of their determinants (using the Motivation-Ability-Opportunity (MAO) explanatory framework) it will be possible (1) to show who develops specific kinds of political knowledge and (2) to propose some reasons as to why this is the case. One lesson from this chapter is that the current view that political knowledge is primarily objective and factual in nature is a constrained one: citizen knowledge is based on more than facts.

## 6.2 Alternative Forms of Political Knowledge

Within psychology there is now recognition that conscious thinking represents only a minor part of what the mind does, implying that most cognitive activity is not objective and deliberative, but implicit and beyond conscious awareness (Bargh 1999; Banaji and Heiphetz 2010). Lodge and Taber (2013: 60) highlight the limits of deliberation and knowledge in citizens’ engagement with political life. Instead the importance of unconscious influences is stressed as the following quote reveals.

[...] feelings drive thinking more than vice versa; conscious experience always follows and is a product of unconscious processing; and behaviour is often propelled by feelings through processes we do not consciously control.

What this means is that unconscious decision-making takes place within 100 milliseconds: long before objective thinking takes place. One example of implicit political knowledge is evident in a study of individuals’ ability to correctly predict election results only using photos of the candidates. Here respondents were asked to pick the candidate whose

face looks most 'competent' (Ballew and Todorov 2007; Antonakis and Dalgas 2009; Armstrong et al. 2010). In another study, individuals with no objective factual knowledge were correctly able to predict 70% of the outcomes of United States (US) senate races by evaluating candidates' competence from facial photos (Todorov et al. 2005).

A third type of political knowledge, although rarely examined as a specific form of political knowledge, is 'interpersonal' knowledge or the reputation for being informed among family, friends and co-workers. The importance of interpersonal knowledge was first highlighted in Katz and Lazarsfeld's (1955) influential 'two-step flow of communication' model of personal influence. This seminal study highlighted the role of informed 'opinion leaders' who mediate media messages to members of their social network. Opinion leaders were characterised by their reputation for high knowledge within their family and among their social peers. In short, opinion leaders score high on an interpersonal definition of political knowledge.

Using the Motivation-Ability-Opportunity (MAO) model this chapter will show that the objective, implicit and interpersonal types of political knowledge have contrasting origins. Objective and interpersonal knowledge are similar except that the former has important personality traits effects that are absent in the latter. Implicit knowledge is unique in that the distribution of this form of knowledge is not based on attitudes or social position, but reflects lower levels of education and social context (residence in large urban communities).

### **6.3 Objective and Interpersonal Knowledge**

Within political science the concept of knowledge is typically associated with structured political attitudes or the ability to answer factual questions. In other words, there tends in empirical political research to be a positivist perspective (focussing on what can be observed and measured and avoidance of purely theoretical speculations) based on having objective measures of political knowledge. In this and the following section, three conceptualisations of political knowledge will be presented: objective (cognitive), reputational (interpersonal), and implicit (pre-cognitive).

#### *6.3.1 Objective political knowledge*

One key reason why objective political knowledge measured using a set of factual quiz items has become so influential is a practical one: it is the 'best single indicator of political sophistication' (Lachat 2007: 57). Earlier approaches to measuring political sophistication using concepts such as 'cognitive engagement' and the emergence of mental structures such as 'political schema' have lost influence because they are now seen as

requiring an unjustified amount of valuable space in mass survey questionnaires. In this chapter, eight factual political knowledge questions were asked with multiple response options. Respondents were openly encouraged not to guess, but to honestly reply 'don't know' if they did not know the answer to a question. These eight questions dealt with local (x2), national (x3), and international (x3) political topics. These questions were used to construct a quiz score, where all non-correct answers were given a value of zero. Thereafter, these quiz scores were analysed with an Item Response Theory (IRT) estimator to construct an objective knowledge score for each respondent.

### *6.3.2 Interpersonal political knowledge*

Within political science, the survey measurement of political knowledge has sometimes used interviewer ratings for each respondent using five-point scales upon completion of an interview. Zaller (1986: 17–18) found that interviewer ratings in face-to-face interviews perform just as well as a battery of 10 to 15 factual knowledge questions within a survey, and interviewers are 'more effective in making discriminations among respondents in the lower and middle ranges of information than in the top range' (note also Zaller 1992: 338). Concerns that an interviewer's social status influences how he/she rates a respondent's level of political knowledge (e.g. high-income males with university education) proved to be groundless.

In essence, this 'interpersonal' form of political knowledge is clearly more social in nature than either objective or implicit political knowledge. This is because interpersonal knowledge is based on an external evaluation and is not purely self-determined. Within the social context of a survey interview the interviewer has 'ample opportunity to observe the respondent deal with political matters' (note, Zaller 1992: 338 fn. 6). The importance of interpersonal knowledge, as noted above, is evident in research inspired by Katz and Lazarsfeld's (1955) influential 'two-step flow of communication' model of personal influence. This model highlights the role played by opinion leaders who are seen to be sources of trustworthy knowledge by their family and social peers.

It is important to stress that objective and interpersonal knowledge tend to be correlated. Zaller (1986) reported correlations ranging between .57 and .68 revealing that the two measures of political knowledge are similar but are not the same thing: a view also supported by Delli Carpini and Keeter (1993), Luskin (1987) and Althaus (2003: 212). Within this study the correlation between objective and interpersonal knowledge is lower ( $r=.37, p<.001$ ), highlighting in the Czech case that these two types of knowledge are not synonymous. Another key point to keep in mind with the interviewer evaluation question is that Luskin (1990) used it as a measure of intelligence that was in turn used to explain political sophistication: where sophistication was operationalised with a

factual knowledge scale.<sup>34</sup> However, this strategy was questioned in subsequent work because Luskin essentially used one indicator of political knowledge to predict another (Delli Carpini and Keeter 1996: 195).

Mondak (2010: 104–110), in his study of the personality determinants of political knowledge, employed interviewer ratings of knowledge in order to deal with the methodological concern that respondents' self-reports of personality traits are the results of political behaviour rather than the cause of it. Independent interviewer ratings of respondents' level of political knowledge provide independent evidence that it is personality traits that determine or cause political knowledge, and not vice versa. In this situation, interpersonal knowledge derived from interviewer ratings provides a means of evaluating how knowledgeable an individual appears to others, regardless of their actual level of factual knowledge about politics or their ability to accurately predict from ballot photos whether a candidate was elected.

In this chapter, interviewer evaluations will be treated as an independent interpersonal form of political knowledge that deserves to be studied in conjunction with other operationalisations of political knowledge. A more detailed exploration of the determinants of interpersonal knowledge will be presented in Chapter 7 using a set of post-election surveys.

#### **6.4 A Theory of Implicit Political Knowledge**

Within political science the concept of knowledge is typically associated with structured political attitudes or an ability to answer factual questions. In other words, in empirical research there tends to be a positivist perspective based on what can be observed and measured. One of the most influential critics of a positivist conception of knowledge was Michael Polanyi (1891–1976, a Hungarian-British polymath who made seminal contributions in both the natural and social sciences), who argued that all knowledge is social rather than objective because knowledge is generated through social networks, a position also adopted for political knowledge by Katz and Lazarsfeld (1955), Converse (1964), and Zaller (1992). In this section, the terms 'objective' and 'explicit' knowledge will be used interchangeably because the latter term was employed by Polanyi in his writings.

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34 Urbatsch (2012: 514) justifies an interviewer-based evaluation measure of intelligence as follows: 'This [interviewer evaluation] captures the overall, holistic impression of intelligence created after the extensive interaction required by the lengthy [American National Election Study] questionnaire, and therefore includes various potential manifestations of intelligence that test-based mechanisms might overlook.' See also Carl (2015) for a similar use of interviewer evaluations for cognitive ability or intelligence.

#### 6.4.1. Polanyi's concept of tacit or implicit knowledge

In his major philosophical work entitled *Personal Knowledge*, Polanyi (1958) argued that in many areas of endeavour, such as science, the process of knowing how to do something (also known as 'procedural knowledge') is more important than the ability to recall facts (or 'declarative knowledge'). It is worth quoting in some detail how Michael Polanyi (1966b: 4; 1966a: 7; 1958: 95) conceptualised tacit, or implicit, knowledge because this will inform the discussion in the remaining part of this chapter.

I shall consider human knowledge by starting from the fact that we can know more than we can tell. This fact seems obvious enough; but it is not easy to say exactly what it means. Take an example. We know a person's face, and can recognize it among a thousand, indeed among a million. Yet we usually cannot tell how we recognize a face we know. So most of this knowledge cannot be put into words.

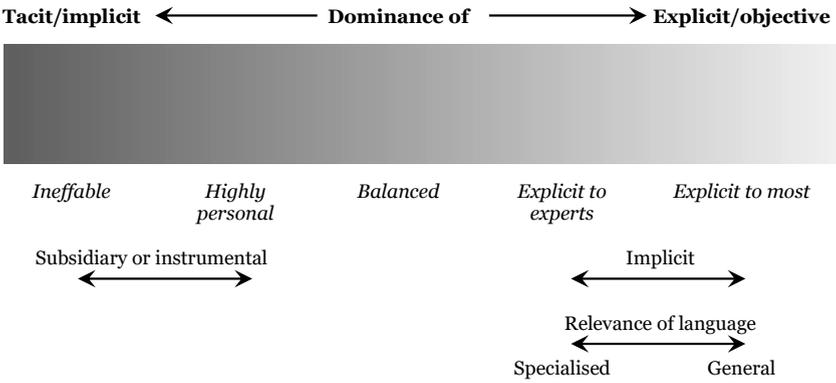
[...] Now we see tacit knowledge opposed to objective knowledge; but these two are not sharply divided. While tacit knowledge can be possessed by itself, objective knowledge must rely on being tacitly understood and applied. Hence all knowledge is either tacit or rooted in tacit knowledge. A wholly objective knowledge is unthinkable.

[...] For just as, owing to the ultimately tacit nature of all our knowledge, we remain ever unable to say all that we know, so also, in view of the tacit character of meaning, we can never quite know what is implied in what we say.

The notion that humans know more than they can say is an old one. For example, in Plato's *Meno* dialogue there is a demonstration that someone lacking school-based knowledge (i.e. a slave boy) could still still get the correct answer to a problem in geometry by being asked a series of true or false questions by Socrates (Plato and Waterfield 2005: 114–122). Here the general point is that innate knowledge of how the world works, rather than ability to correctly recall facts, is sufficient to solve mathematical and perhaps also other types of problems. The key lesson here is similar to Polanyi's which is that those lacking objective knowledge have access to implicit knowledge when making decisions.

Polanyi (1958) went on to argue that personal beliefs are anchored in the self. These personal beliefs are difficult for most people to explain to others (e.g. to an interviewer in a face-to-face survey interview). Consequently, party attachment learned through family socialisation is expressed in a language specific to this social context. Polanyi argues that there are limits to language where use depends on both parties in a conversation tacitly understanding the words used. Here words are not elements of meaning, but refer instead to speakers and listeners having a common interpretation of the words. Here one might argue that using words such as 'liberal' and 'conservative' requires being a member of a particular political community and holding specific beliefs about the world. For example, knowledge of the words 'liberal' and 'conservative' is not about explicit knowledge, but shared interpersonal meaning. This

**Figure 6.1: Polanyi’s conception of an implicit and objective knowledge dimension**



Source: Grant (2007: 177) and derived from Polanyi (1956, 1958: 87–101, and 1966). Note that the terms ‘tacit’ / ‘implicit’ and ‘explicit’ / ‘objective’ are used interchangeably in this chapter. This mixing of terms is used to link Polanyi’s ‘tacit’ and ‘explicit’ classification of knowledge with the ‘implicit’ and ‘objective’ terminology used elsewhere in this book.

view applied to the low ‘levels of conceptualisation’ measured in Campbell et al.’s (1960) *American Voter* suggests that the paucity of ideological thinking reflected most citizens’ unfamiliarity with academic conceptions of party competition.

It is important to stress that Polanyi (1958: 87, 95) did not think there was a sharp division between tacit and explicit (objective) knowledge. This is because both are deeply interconnected where all knowledge has a tacit component as noted in the quotes given above. Figure 6.1 provides a graphical illustration of Polanyi’s conception of the implicit and explicit (objective) facets of knowledge. Here knowledge is said to be composed of degrees of explicitness or implicitness.

Starting on the far right of Figure 6.1 there is knowledge ‘explicit to most’ and this refers in the realm of politics to topics that almost all citizens know. For example, almost all Czechs know that the current president is Miloš Zeman and that he is the first popularly elected president (in January–February 2013). Moving leftwards toward the centre of Figure 6.1, objective knowledge that is ‘explicit to experts’ might refer to an understanding of the nature of party competition reflecting a two-dimensional policy space, i.e. economic left-right and social liberal-conservative. However, much of this language of politics is reported in the media, and is hence explicit to a wider public interested in politics.

Progressing further toward the centre of Figure 6.1 there is what might be called a 'balance' point for implicit and explicit knowledge. This point might refer to how knowledge of how public policy is formulated by 'key players' in parliament. In other words, this blend of implicit and explicit knowledge is partly known by all through public information leaflets describing 'how laws are made', and partly known to insiders who understand exactly what happens. Movement from 'highly personal' to 'ineffable' (inexpressable) in Figure 6.1 shows that political knowledge may be restricted to complete 'insiders' of two types: (1) elite knowledge known only to top party members in national government, or (2) local knowledge known only to citizens living in a specific community.

The bottom part of Figure 6.1 shows that tacit and objective forms of knowledge are characterised by contrasting types of interpersonal language. This is where the paradoxical nature of the tacit and objective knowledge distinction emerges with use and relevance. Turning first to language use, with objective knowledge a lot of implicit or contextual information is required for understanding communication. In contrast, with tacit knowledge language is subsidiary to the shared meaning between speakers and listeners. Secondly, with language relevance tacit knowledge tends to have a more specialised language that it is difficult for outsiders to comprehend while explicit knowledge is associated with a general language that is open to all.

In short, tacit knowledge tends to employ a specialised language that is subsidiary to shared meaning within a small group. In contrast, explicit knowledge uses a general language that contains much implicit meaning in the form of contextual understanding. For Polanyi (1958) all knowledge has an important implicit (shared meaning) component. The following subsections will endeavour to extend this broader conception to the empirical study of political knowledge.

#### *6.4.2 A comparison of objective and implicit knowledge*

To briefly recap. A comparison of objective (factual) and implicit (tacit) political knowledge is presented in Figure 6.2, which shows that the former is more concerned with *what* people know and the latter focusses on things individuals know *how* to do. As noted above, here there is a correspondence between objective knowledge being described as 'declarative' and implicit knowledge being seen as 'procedural' – a distinction often used in psychology to distinguish between contrasting (but interrelated) forms of knowing (Anderson 1983). The view that objective and implicit knowledge could be seen as possibly independent parallel learning processes remains an issue of debate and research (Reber 1993: 119; Perruchet and Pacteau 2006).

Figure 6.2 also shows that objective and implicit knowledge differ along a number of key characteristics. This figure shows how tacit and

**Figure 6.2: A comparison of objective and implicit knowledge characteristics**

<i>Characteristics</i>	<i>Type of political knowledge</i>	
	<i>Explicit or objective</i>	<i>Tacit or implicit</i>
Type of political awareness	Conscious awareness of political facts relating to actors, institutions and rules	Intuitive awareness of politics and public affairs
Type of knowledge	Declarative knowledge of political facts, norms and values	Procedural knowledge of the ‘logic’ of how politics works in practice and fragments of factual knowledge
Systematic nature of knowledge	Organised knowledge of political affairs	Idiosyncratic, inconsistent and partial knowledge
Accessibility of knowledge	Knowledge is retrieved through conscious cognitive processing	Knowledge is accessed in a sub-conscious automatic manner
Use of political knowledge	Used infrequently when there is a difficult choice to be made in elections or during survey interviews	Knowledge used frequently during participation in the political process
Measurement in mass surveys	May be spoken about during survey interviews most often in political quizzes and various scales relating to policy positions and ideology	Cannot be spoken about in survey interviews, and therefore is often not measured
Political learning process	Learning in critical periods, i.e. during early socialisation, and later during times of crisis	Learning takes place constantly through the life-course

Source: derived from Ellis (2005: 151; 2006: 11–16)

explicit knowledge are acquired and used has major implications for our understanding of what constitutes a ‘competent’ citizen. With regard to making inferences about an individual’s level of political knowledge from mass surveys, the message from Figure 6.2 is clear: an emphasis on objective declarative factual knowledge is likely to underestimate the true abilities of citizens.

This is because political surveys are rarely designed to measure implicit or tacit knowledge. Political scientists have most often assumed that explicit or factual knowledge takes place first and is for this reason most important for explaining attitudes and behaviour. Tacit political knowledge or skills come later. However, research on the relationship between tacit and implicit knowledge suggests that such an assumption is invalid. This is because implicit learning often takes place before ob-

jective knowledge is learned. For this reason, there is much debate about the appropriateness of dichotomising explicit and implicit knowledge.

It is important to stress that Polanyi's (1958) concept of tacit knowledge is primarily philosophical in nature; there is little grounding of his theory of knowledge in psychology and experimental results. More recently, within political science, Aleksander Ksiazkiewicz (2013) has proposed a concept of 'implicit political knowledge' that broadly incorporates Polanyi's ideas about tacit knowledge, where individuals are able to make voting choices that are only partly based on objective (factual) knowledge. Here implicit political knowledge is viewed in a similar manner to implicit political attitudes where information about the political realm is organised into 'schema', that is, networks of related ideas whose structure follows an efficient cognitive logic (note, Lodge and Hamill 1986). This schematic knowledge is directly employed through 'stereotypes': knowledge structures devoted to specific things such as political parties or candidates seeking election.

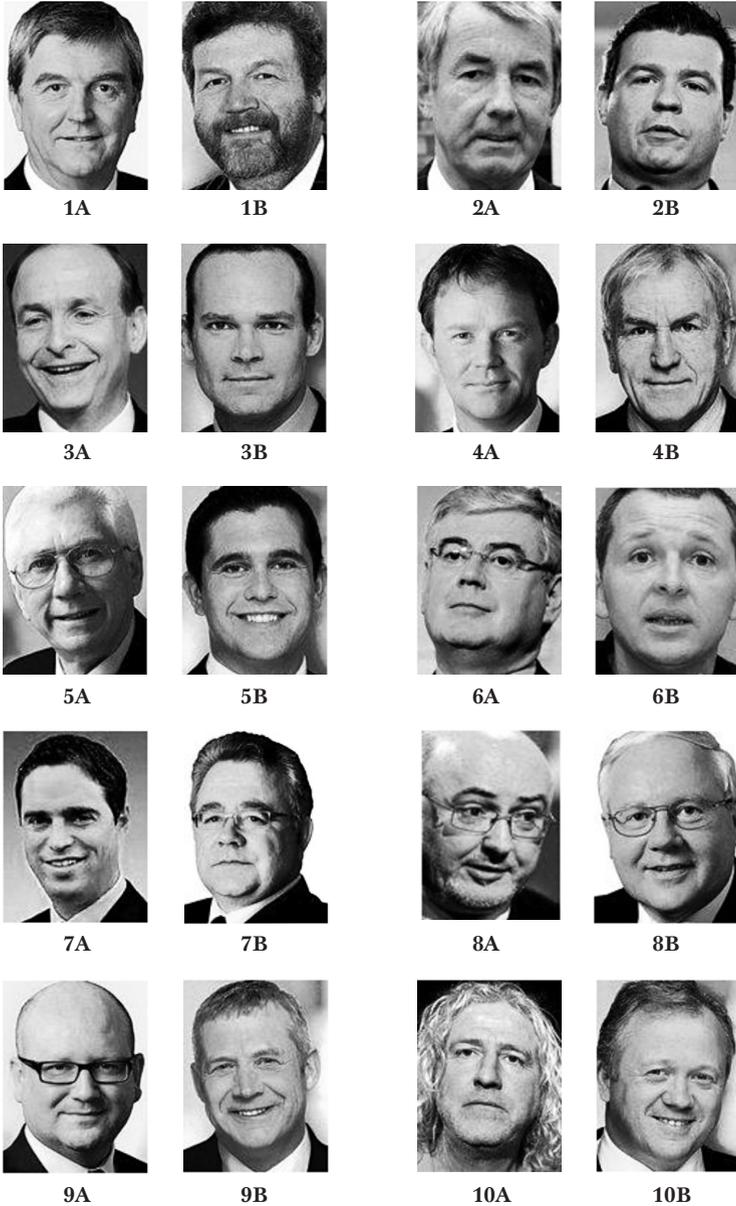
The cognitive context in which objective and implicit knowledge come into existence is placed by Ksiazkiewicz (2013) within the framework of the influential 'dual process' perspective in psychology (e.g. Petty and Cacioppo 1986; Marcus et al. 2000; Kahneman 2011). Here explicit or factual political knowledge originates in deliberative thinking. In contrast, implicit, or tacit, knowledge results from automatic associations made about politicians or issues whose origins are subconscious. To summarise, citizens have a knowledge of politics that (a) is not composed solely of learned facts, (b) is grounded in emotional impressions rather than deliberate thinking, and (c) is not amenable to direct measurement in surveys using a factual quiz format.

Ksiazkiewicz (2013) proposed that implicit stereotypes may be viewed as a tacit form of political knowledge that are available for use when citizens have low or no levels of objective factual knowledge. Ksiazkiewicz (2013: 555 fn. 1) explores the ideological or policy-based differences between parties as an implicit group stereotype 'because it fits most readily with research on implicit group stereotypes that associates some trait or object with a group. It is possible that knowledge of institutions and of political actors is also encoded implicitly; future research will need to determine if this is the case.'

#### *6.4.3 Implicit knowledge measurement*

A defining feature of implicit knowledge is that for all people tested the level of objective (factual) knowledge must be set to zero. One method of ensuring zero factual knowledge is to select a test that none of the respondents will have seen before. Within political science implicit knowledge may be quickly and easily measured by asking survey respondents to examine pairs of rival candidate photographs from a distant country. In these studies, as noted above, the respondent is asked to select the

**Figure 6.3: Ballot photos examining perceived competence used to construct an implicit political knowledge scale**



Source: derived from photos that originally appeared on ballot papers for the Irish general election of February 25 2011. Note the correct answers defined in terms of who won the most votes in a constituency are 1B, 2A, 3A, 4B, 5B, 6A, 7A, 8A, 9B and 10A.

candidate that looks most ‘competent’ using only a facial photo to make this choice (Todorov et al. 2005; Ballew and Todorov 2007; Antonakis and Dalgas 2009; Armstrong et al. 2010).<sup>35</sup>

Using a similar methodology a nationally representative sample of Czech respondents were presented with photos of Irish general election candidates from ten constituencies, as shown in Figure 6.3. The candidate photos were those used in the Irish General Election of February 25, 2011. It is highly unlikely that any of the Czech respondents interviewed twenty months later in early November 2012 would have ever seen these ballot photos before. This is because both countries are distant in terms of space (close to 1,500 kilometers from Prague to Dublin), language and shared history. Consequently, there are relatively few links between Ireland and the Czech Republic and there is little news about Irish politics in the Czech media, and certainly not enough to allow a Czech citizen to know the details of constituency-level politics. A representative sample of Czech respondents was asked the following question in late 2012.

Now, I would like you to examine on CARD X (Figure 6.3) some photographs that are grouped into 10 pairs labelled A and B. Please imagine for a moment that these are pairs of candidates competing against each other in an election. Although you have never seen these candidates before and know nothing about them, please look at the first pair of photographs for a moment. Then please indicate which candidate you consider to be the most COMPETENT? This is not a test of skill or knowledge but an examination of your perceptions. Please answer as honestly as you can.

Each pair of candidate photos came from the same constituency and contained a picture of (1) the candidate elected first with the most votes and (2) the last elected candidate typically from a different party. The goal was to see how many winning (Irish) candidates Czech respondents were able to correctly select. This was a difficult task because all of the candidates shown in Figure 6.3 became members of the Irish parliament between 2011 and 2016. The difference between the candidates in each pair examined was the number of votes between the candidates elected first, with the largest number of (first preference) votes.

#### *6.4.4 Probability of correct prediction*

A respondent knowing nothing could guess the answers and would have a one in two chance of being correct or selecting the candidate that got the most votes. Therefore, with the first pair of photos, i.e. 1A vs 1B, there was a probability of 50% of guessing the correct answer, and so forth for all ten pairs. Using probability theory (or more specifically binomial probability) associated with coin tossing and predicting heads

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<sup>35</sup> Previous research reveals that perceived competence is the strongest component of candidate evaluation (Todorov et al. 2005: 1625, fn.10; note also valence theory in Clarke et al. 2009 and Sanders et al. 2011).

or tails from a series of tosses, it is possible to know how well a person would do by guessing the answers to Figure 6.3.

Binomial probability theory estimates that the probability of successfully guessing correctly the answer ten times in a row is very low, i.e.  $p=.0098$ , or less than one chance in a thousand. One implication here is that in a sample of about 1,200 respondents one would expect that one lucky guesser would be expected to get all predictions correct. Conversely, with guessing an equally small number of people would be expected from binomial probability theory to get no answer correct ten times in a row ( $p=.0098$ ). The probability of correctly guessing half, or 5 out of 10, of the winners in Figure 6.3 is much higher at 25% ( $p=.2461$ ).

Application of the binomial probability theory to the ballot photo task, shown in Figure 6.3, reveals that two in three respondents should have gotten between 4 and 6 answers correct. Those who got less (3 or less) or who got more (7 or more) could be considered to have scored worse or better, respectively, than what would have been expected on the basis of guessing alone. Since the respondents were encouraged to use the information in the ballot photos, it is assumed in this chapter that higher scores refer to a genuine ability to use implicit knowledge to correctly predict which candidates won the most votes in ten Irish constituencies in the general election of February 25, 2011.

Consequently, implicit knowledge is operationalised in this chapter as the number of correct constituency predictions where the respondent considered the most competent looking candidate to be the one who received the most votes in the actual election. In a similar manner to previous chapters, correct answers are coded with a one (1) and all other non-correct answers, i.e. incorrect plus don't know and no answers with zero (0). The resulting implicit knowledge scale which is the sum of the correct predictions based on the ballot photo information has a range between zero and ten that has a roughly normally distribution with a slight negative skew because more respondents had less than five correct answers.

Up to this point the focus has been on (a) what implicit knowledge is, (b) why it matters and (c) how implicit knowledge differs from cognitive (objective or factual) and social (interpersonal) views of what it means to be an informed citizen. The next step is to compare these three facets of political knowledge in terms of their origins and determinants: a task that will be done in the next section. This comparative approach has the merit of checking whether the theories of objective, implicit, and interpersonal knowledge really do have different foundations.

## **6.5 Determinants of Implicit and Other Forms of Knowledge**

In the previous section, there was an examination of the three dependent variables examined in this study. Now it is time to switch attention to the determinants of objective, implicit, and interpersonal political knowledge. As noted above, the origins of these three forms of knowledge will

be explored in this chapter using the Motivation-Ability-Opportunity (MAO) model that has been described and used in earlier chapters of this book.

To briefly recap, it is argued that individuals who are (1) *motivated* by being interested in politics for example, (2) who have the cognitive *ability* to understand political information, typically operationalised though level of education, and (3) *opportunities* to access political news through higher levels of media use for example. A key implication of the MAO model for democratic systems of governance is that effective representation depends on (a) ensuring the content of political messages is consonant with most citizens' level of thinking about politics and (b) making sure political messages motivate individuals to think more deeply about public policy questions.

Explaining the origins of implicit knowledge is difficult for two reasons. First, there is little previous research on this topic, and hence little indication of why some individuals should be better at correctly associating the electoral success of unknown candidates on the basis of perceived competence from a ballot photograph. Second, implicit knowledge is pre-cognitive in nature, therefore none of the motivation, ability and opportunity (MAO) factors should help in explaining differences between people. This leads to the formulation of the following null hypothesis.

H.1 None of the MAO explanatory factors should help explain differences between people in level of implicit political knowledge.

The MAO model variables should help explain objective knowledge for the reasons outlined above and in previous chapters. Differences in interpersonal political knowledge are also explored in this chapter because previous research suggests it should have similar determinants to objective knowledge, but not be identical. This is because interpersonal knowledge has social foundations and refers to reputation, i.e. how knowledgeable a person appears to someone else. In contrast, objective knowledge is cognitive in nature and refers to performance on a quiz.

### *6.5.1 Data, methods and discussion*

A nationally representative survey undertaken by CVVM on November 6–12, 2012 will be used in this chapter to explore in a comparative way the determinants of objective, implicit and interpersonal forms of political knowledge. The total sample size was 1,267 respondents who were interviewed face-to-face with a team of more than two hundred interviewers. About one in twenty of these respondents (n=63) refused to answer the ballot photograph questions and were excluded from the analyses reported below. All models reported in this chapter are based on an Ordinary Least Squares (OLS) estimator as all the dependent variables are interval-level variables that are normally distributed. Additional model

diagnostics indicate that use of an OLS estimator is appropriate. All dependent and independent variables have been rescaled 0–1 in order to facilitate comparison across all models estimated.

A key assumption in this chapter is that each of the three forms of political knowledge examined is sufficiently different to warrant a separate analysis. What this means is that objective, implicit and interpersonal knowledge are not so strongly correlated to be considered indicators of a single latent concept: general political knowledge. Rather, objective, implicit and interpersonal are different facets of a general form of political knowledge, and hence will not be strongly inter-correlated.

The inter-correlation among the three knowledge measures examined in this chapter is greatest for objective and interpersonal knowledge ( $r=.38, p\leq.001$ ). In contrast, all correlations between implicit knowledge and the other two forms of political knowledge are not statistically significant ( $p\geq.05$ ). The failure to find strong associations suggests that objective, implicit, and interpersonal knowledge are separate facets of political knowledge. Some care is required here because the correlation between objective and interpersonal knowledge may reflect the fact that the interviewer witnessed the respondents' performance on the political quiz. Moreover, in previous research, the interviewer's evaluations of the knowledge of the respondent have been used sometimes as a proxy for political knowledge (e.g. Zaller 1992). In this chapter it is argued, in contrast, that performance in a political quiz and evaluations by another person (such as an interviewer) are not the same thing. The correlation results noted above suggest this is the case.

### *6.5.2 Results of implicit knowledge questions*

With the ten ballot photo questions, the respondent could select option A or B or give a 'don't know' or 'no answer' reply. On the basis of the Irish general election results for the ten constituencies examined, the Czech respondents' answers were considered 'correct' (and coded as zero) if they said that the candidate who looked most competent also won the most votes. Conversely, if the Czech respondent chose the Irish candidate that did not win the most votes (because the less electorally successful candidate was judged to be the most competent) this response was considered 'incorrect' and coded as zero. Table 6.1 presents the results of the ten pairs of ballot photos compared. Often about one in ten respondents refused to answer the question, which is reasonable as the task was a difficult one, as noted above.

The results shown in Table 6.1 show there were six correct answers and four incorrect ones. The difference of proportions (z-test) results reveal that for the fourth pair (P4) the difference between the incorrect and correct proportions is not statistically significant. This indicates that for P4 a 'tied result' is more appropriate. Consequently, this leads to an overall tally of 6 correct, 3 incorrect, and 1 tie.

**Table 6.1: Summary of the results of correctly selecting winners among ten pairs of candidates on the basis of perceived competence**

<i>Pairs</i>	C	I	NA	C-I	M	Z	p
<i>P1</i>	52	41	8	9	Yes	7.3	<.001
<i>P2</i>	53	35	12	18	Yes	12.6	<.001
<i>P3</i>	32	59	9	-27	No	18.9	<.001
<i>P4</i>	44	46	11	-2	No	1.0	0.309
<i>P5</i>	47	44	9	3	Yes	2.2	0.029
<i>P6</i>	53	30	17	23	Yes	16.2	<.001
<i>P7</i>	53	34	14	19	Yes	13.7	<.001
<i>P8</i>	27	61	13	-34	No	23.2	<.001
<i>P9</i>	51	39	10	12	Yes	8.7	<.001
<i>P10</i>	25	63	12	-38	No	25.7	<.001

Source: CVVM Survey, November 5–12, 2012 (n=1203)

Legend: Pairs=pair of candidate photos evaluated, C=Correct, I=Incorrect, NA=No answer, C-I=C minus I, M=Match with election results, Z=Difference of proportion (z-test), and p=probability of difference in scores in the z-test.

Note that ‘correct answers’ refer to selecting the candidate that was considered to be (a) most competent on the basis of a ballot photograph, and (b) won the most votes in the Irish general election (2011). Incorrect answers indicate selection of the less popular candidate in the constituency poll as being the most competent, and ‘no answer’ refers to those respondents who gave no response. A small number of respondents (n=64 or 5%) refused to answer any of the ten ballot photo questions.

Table 6.1 also shows that for most pairs of candidates (8 out of 10) the larger correct group (who chose the winner) was on average 9% greater than the smaller incorrect group (who selected the losing candidate). This difference ranged from majorities of 3% to 23%. When Czech respondents incorrectly selected (as being most competent) the less successful Irish candidates (i.e. P3, P8 and P10 [note there is a statistical tie for P4]) the majority ranged from 27% to 38%. These majority differences indicate that when the use of implicit knowledge goes ‘wrong’, it can do so in a big way.

There is a cautionary lesson here. Implicit knowledge operationalised as being able to match competence evaluations using facial photos with electoral success is about as good as guessing when only elected candidates are being evaluated. This is an important difference from previous research reported by Todorov et al. (2005) and Antonakis and Dalgas (2009).

In a less demanding task where election winners and losers are considered implicit knowledge should be more effective. This raises an

important question: what is the most effective use of implicit knowledge? The ballot photo approach to implicit knowledge is most often tested using real election results as a comparison. Here it is assumed that the Irish voters, for example, cast their ballots in reference to the candidate's 'true' competence to hold office. Czech respondents could only rely on perceived competence using the ballot photos. However, it is also possible (using the Irish voting example) that some Irish voters might have known as little about the candidates, shown in Figure 6.3, as the Czech respondents did. Here it is conceivable that both factually uninformed groups depended on implicit knowledge derived from the ballot photos to make choices.

There is a limit to this (factual) know-nothings interpretation. Three incorrect answers (and one tie) reveal that Czech respondents' perceptions of competence did not always match the Irish voters' choices. For example, in pair 10 (P10) the actual winner, Mick Wallace (independent, non-party), was selected by a minority of one in four Czechs. The fact that a majority (57%) of Czechs selected Wallace's rival, Dr Liam Twomey (Fine Gael party) is understandable. This is because Wallace was elected primarily as a protest candidate whose long white hair and fondness for pink shirts makes him a unique-looking (Irish or Czech) male politician.

### *6.5.3 The MAO model of objective, implicit and interpersonal knowledge*

A comparison of the determinants of objective, implicit and interpersonal knowledge is presented in Table 6.2. Looking first at objective knowledge, the table reveals that the Motivation-Ability-Opportunity (MAO) model results are the same as those reported in previous chapters. Individuals with higher levels of factual knowledge are motivated (i.e. are interested in politics, agree who is in power makes a difference, external efficacy, and intend to participate in the next election), have ability (i.e. higher level of schooling), and the opportunity to find and make use of political information (i.e. are male and a high media user).

With regard to the second model (in the centre of Table 6.2) dealing with the origins of implicit knowledge, the OLS regression modelling results reveal that the MAO model has little application except for ability (i.e. education) and opportunity (i.e. community size). This result partially confirms the null expectations of H.1. The negative education parameter is important because it highlights that higher levels of implicit knowledge exist mainly among the less educated. This finding fits with previous work where non-factual sources of information to make political decisions are mainly used by those with less schooling. Equally interesting is the positive impact that living in a populated urban area has on implicit political knowledge. The implication here is that meeting strangers on a daily basis boosts individuals' ability to make correct predictions of (unknown) candidates' success in elections using only ballot photos.

**Table 6.2: A comparison of models of the determinants of objective, implicit and interpersonal political knowledge**

<i>Models and explanatory variables</i>	<i>Objective</i>		<i>Implicit</i>		<i>Interpersonal</i>	
	<i>B</i>	<i>Sig.</i>	<i>B</i>	<i>Sig.</i>	<i>B</i>	<i>Sig.</i>
<i>Motivation</i>						
Interest in politics	<b>.16</b>	≤.001	-.02	.470	<b>.23</b>	≤.001
Party attachment	<.01	.843	.01	.453	<b>.04</b>	.001
Who is in power matters	<b>-.06</b>	.001	.01	.392	-.01	.375
External efficacy scale	<b>-.07</b>	.029	-.04	.171	.01	.808
Internal efficacy scale	-.04	.200	<.01	.190	<b>-.15</b>	≤.001
Left-right scale (0–10)	.04	.180	.04	.143	<b>.06</b>	.007
Will vote in next election	<b>.05</b>	≤.001	<.01	.986	<b>.03</b>	.036
<i>Ability</i>						
Education level	<b>.09</b>	≤.001	<b>-.03</b>	.090	<b>.12</b>	≤.001
<i>Opportunity</i>						
Sex: female	<b>-.03</b>	.016	.01	.324	<b>-.03</b>	.006
Age (linear)	.15	.160	.04	.641	<b>.27</b>	.004
Age squared (nonlinear)	-.17	.167	-.10	.318	<b>-.28</b>	.009
Income of household	.04	.156	.03	.131	.03	.201
Unemployed	-.03	.170	-.02	.384	-.03	.246
Media use (scale)	<b>.07</b>	.014	.02	.524	<b>.09</b>	≤.001
Community size (subjective)	-.01	.722	<b>.03</b>	.046	-.01	.434
Intercept	.39	≤.001	.48	≤.001	.34	≤.001
<i>Model fit statistics</i>						
R <sup>2</sup>	.20		.02		.37	
F (15, 1187)	21.44		1.42		40.96	
Log-likelihood null	119		370		168	
Log-likelihood model	255		381		445	
AIC	-479		-729		-857	
BIC	-397		-648		-776	

Source: CVVM survey, November 5–12, 2012, n=1203

\* p≤.10, \*\* p≤.05, \*\*\* p≤.001

Note that these models exclude respondents (n=64 or 5% of the sample) who refused to answer any of the ten ballot photo evaluation items. OLS is used to estimate model parameters where all variables have a range of 0–1. The unstandardised coefficients reported may be used to compare across the three models reported.

Finally, with the determinants of interpersonal knowledge model many of the motivation, ability and opportunity explanatory variables have statistically significant effects ( $p \leq .05$ ). It could be argued that the main difference between objective and interpersonal knowledge is that the latter reflects both knowledge and opinionation. A person with a reputation for being factually knowledgeable about public affairs is someone who expresses their opinions and preferences to others: a process that forms the basis of Katz and Lazarsfeld's (1955) influential 'two-step flow of communication' model of personal influence, as noted above.

The MAO model results presented in Table 6.2 also reveal that differences in objective political knowledge are more strongly determined by motivational factors, such as interest in politics and participation in elections, and to a lesser degree by opportunity structures (i.e. sex and media use). With interpersonal knowledge there appears to be more of a balance between motivation and opportunity factors, where, for example, age exhibits powerful significant ( $p \leq .05$ ) linear and nonlinear effects. Finally, interpersonal knowledge appears to have its origins in motivation, ability and opportunity. The bottom part of Table 6.2 shows that the resources indicated by income and unemployment have little effect on any type of knowledge examined.

## Conclusion

Implicit knowledge is an important resource that voters use when deciding how to vote on Election Day or whether politicians are competent enough to provide a leadership role in government. With this form of knowledge the citizen uses skills practised on a daily basis when dealing with strangers at work and in public places. Individuals operating with little, or no, factual knowledge use visual information, such as how people look, to decide whether a person can be trusted to do a task. Measuring implicit knowledge is difficult because it is a skill (procedural) rather than a factual (declarative) form of knowledge.

Asking people from a different country to evaluate candidate ballot photographs in terms of competence is currently one of the ways in which implicit knowledge can be measured. In the survey reported in this chapter, this task was made more difficult than in previous studies. All of the Irish candidates evaluated were elected, and hence 'competent'. Consequently, the Czech respondents, using their implicit knowledge, had to choose between different levels of (perceived) competence: an assignment that was more challenging than choosing between a winner and loser. With this difficult test of implicit knowledge, the survey data reveal that this form of knowledge is distributed (in a Gaussian bell-curve) in a similar manner to intelligence (IQ) and height.

The main concern here is that this distribution might not refer to implicit knowledge, but to guessing. Here one would expect with a correct/incorrect response format that most people would get half of the

answers correct by chance. This is roughly what the survey results show. The problem here is that a normal distribution of implicit knowledge and guessing are observationally equivalent. Here it is important to remember that the factual knowledge scale also shows a normal distribution, where one might also argue that people might have guessed the answers.

The interpretation adopted in this chapter is that the implicit knowledge measurements are based on the Czech respondents in late 2012 genuinely trying to identify the most competent Irish candidates from their ballot paper photos. As noted above, the fact that perceived competence did not always match the actual rank ordering of the winners (as decided by Irish voters in early 2011) is important. Voting purely on the basis of implicit knowledge will be imperfect in the sense that elections are also about other matters such as factual knowledge about partisanship and policy positions.

The finding that implicit knowledge is associated with frequent social encounters with strangers (though living in larger urban centres) and with lower levels of education indicates that this form of knowledge is employed in situations of social uncertainty. As a final point, it is important to stress that while implicit knowledge has pre-cognitive origins, it is evaluated by the conscious mind. This means that, although the process of creating implicit knowledge is beyond conscious thinking, the evaluation of implicit knowledge is based on conscious reasoning. Consequently, a person might implicitly think a candidate looks competent but reject this implicit knowledge when making a vote choice (see Nosek and Hansen 2008: 590).

More generally, citizens' level of political knowledge should not be restricted to factual measures because such information is only one basis for making choices. A comprehensive treatment of how citizens take decisions requires consideration of non-cognitive strategies, which the survey evidence suggests are used more often than fact-based ones. In short, although implicit knowledge is rarely measured, it is important for understanding how knowledge, more broadly understood, informs choices.

## **PART 3: DETERMINANTS OF POLITICAL KNOWLEDGE**



# **Chapter 7: Determinants of Objective and Interpersonal Political Knowledge. Means, Motive and Opportunity**

Knowledge is herein conceived as that aspect of long term memory by which it is supposed that information stabilises taking the form of a crystallised and organised semantic network. Archives of remote memory may be envisaged as being essentially dedicated to store knowledge. Quillian [1969] coined the term 'general knowledge of the world' (GKW), which encompasses aspects of semantic information of current use in everyday life, common to the great majority of culturally homogeneous people in a given geographical area and a given historical period.

Mariani et al. (2002: 161)

However, this begs the question as to what determines political knowledge (and attitudes) if not the classic demographic variables considered earlier. The answer may be partly tautological [...] Those young people who, for whatever reason, are interested in politics, expose themselves to more political coverage on the media and hence learn more about it. It is not surprising that the sample's knowledge was best in terms of knowledge of individual politicians as it is frequently through individual personalities that television, in particular, reports political events. What we need to know is what makes children interested in politics in the first place, and whether (indeed how) their politics interests lead to increased political knowledge and behaviour such voting preference, standing for election, or canvassing.

Furnham and Gunter (1989: 27)

To become highly sophisticated, we must encounter a certain quantity of political information, be intellectually able enough to retain and organize large portions of the information we encounter, and have reason to make the effort.

Robert C. Luskin (1990: 335)

## **Introduction**

Factual or objective political knowledge is important. On the one hand, how well informed citizens are about what politicians are doing in their name determines the effectiveness of democratic representation (Alvarez 1997). On the other hand, political knowledge itself can be a source of power where possession of factual information can overcome all other barriers to participation in social and political life (Hofstetter et al. 1999). Consequently, now most survey-based studies of elections examine citizens' knowledge of politics by implementing a short quiz often with a simple true or false response or multiple choice format. This factual information-based approach to measuring political knowledge,

as noted in earlier chapters, has effectively replaced alternative operationalisations of ‘political sophistication.’

This move away from defining and operationalising political sophistication in terms of evidence of ideological thinking was a practical one. It was found that the validity and reliability of short and easy to implement political information or awareness scales worked just as well as more time consuming approaches, such as (1) measuring ‘levels of conceptualisation’, or (2) mapping out the structure of attitudes and information using insights from cognitive psychology such as schema theory. The ‘measurement of political knowledge’ question has spurred much debate within political science (see Luskin 1987; Delli Carpini and Keeter 1993; Nadeau and Niemi 1995; Mondak 1999, 2001; Mondak and Davis 2001; Barabas 2002; Levendusky and Jackman 2003; Sturgis et al. 2008; Luskin and Bullock 2011).

For example, Prior and Lupia (2008) show that respondents who are offered financial incentives score better in political quizzes. This result shows that current political knowledge scales contain a mix of (a) knowledge, and (b) motivation to think of answers to quiz questions. In addition, there has been criticism of using political facts to measure political knowledge because it is debatable if possession of specific facts allows researchers to distinguish between citizens in a meaningful way. In this respect, Philip E. Converse (1975: 9), one of the pioneers in the survey-based study of political sophistication, was sceptical of the use of factual knowledge scales. He agreed with critics of knowledge quizzes that the ability to recall ‘stray’ facts did not provide solid foundations for the study of knowledge effects on political attitudes and behaviour.

The critic of such information level findings who points out that most of the ballyhooed items come from the stray fact department, and that all sorts of vigorous and well-grounded opinions about political options can be formed without, for example, accurate recognition of the minority leader of the Senate is surely right.

These ideas have motivated researchers to construct and operationalise a wide range of measures broadly associated with political knowledge, as shown in Figure 7.1. The main point here is that how political knowledge is conceptualised influences the political knowledge effects observed. As noted in earlier chapters, this is a major limitation of political knowledge research because many scholars have effectively created their own knowledge concepts and operationalisations that are not always comparable.

One of the central themes in each of the three quotes presented at the beginning of this chapter are the twin ideas that (1) political knowledge is strongly linked with information held in a person’s long-term memory, and (2) this information is only important if it forms the basis for motivated action. In other words, political knowledge and interest are

intricately related where it is difficult to see how a citizen could only be interested in politics, but not informed, or vice versa (Shani 2009: 6–7). Here the importance of ‘appearing knowledgeable’ is important because it leads to interpersonal influence: this is where one person, an opinion leader, convinces others to adopt a particular attitude and behaviour (Lazarsfeld et al. 1944; Katz and Lazarsfeld 1955). This is a theme that was explored in Chapter 6 and will be examined again in this chapter.

In defence of using facts as a means of determining a citizen’s level of political knowledge, most authors have argued that some core facts are necessary for basic political acts such as voting (Neuman 1986: 197; Delli Carpini and Keeter 1996; Zaller 1992; Kuklinski et al. 1998: 303–307). For example, Delli Carpini and Keeter (1996) asked a panel of 111 political scientists in 1989 what they considered were facts that all citizens should know. The results of this ‘expert survey’ were then used to select questions for use in subsequent surveys of citizens.

One key advantage of the ‘political fact’ perspective, as highlighted in Chapter 2, is that the use of quiz items within the Item Response Theory (IRT) modelling framework allows for comparison of knowledge effects across studies even if the same quiz questions have not been used. This is an important consideration with comparative work, i.e. across countries, or within the same country across time. Both forms of analyses are presented in this book.

This chapter will show that factual and interpersonal political knowledge are both determined by motivation, ability, opportunities and resources, but they are not coterminous – a finding reported in Chapter 5. In other words, being factually knowledgeable and appearing informed to a survey interviewer are not the same thing (cf. Zaller 1986, 1992). This makes sense because objective or factual knowledge has a primarily cognitive basis. In contrast, interpersonal knowledge depends critically on having specific social skills or what is sometimes called ‘social intelligence’ (note, Humphrey 1976; Gardner 1983, 1993, 1999). Interpersonal knowledge is important because its influence is not only personal, as in factual knowledge, but is the basis for election campaign effects, etc. In contrast, study of the possession of factual knowledge, to the exclusion of all other types, involves adhering to a primarily individualist view of politics, thereby running the risk of making the ‘fundamental attribution error’ of ignoring social context.

The argument presented in this chapter will proceed as follows. This chapter opens with an overview of how political scientists have gone about the task of explaining differences in knowledge among citizens. In Sections 2 and 3 the theory behind the Motivation-Ability-Opportunity (MAO), Opportunity-Motivation-Ability-Resources (OMAR) and Opportunity-Motivation-Resources (OMR) models is presented, and this is followed in the third section by an overview of the data and methods employed. A discussion of the modelling results for standard

**Figure 7.1: Lexicon of concepts exploring political knowledge effects**

<i>Explanation</i>	<i>Concept</i>	<i>Research</i>
Motivation	Political involvement	Berelson et al. (1954)
	Political affect	Berelson et al. (1954)
	Interest in politics	Berelson et al. (1954)
	Political attentiveness	Key (1961)
	Exposure to political stimuli	Milbrath (1965)
	Political apathy	Rosenberg (1954)
	Political salience	Czudnowski (1968)
Information	Political knowledge	Glenn (1972)
	Political information	Lane and Sears (1964)
	Political awareness	Zaller (1992)
	Political mass	Converse (1962)
Cognitions	Level of conceptualisation	Campbell et al. (1960)
	Recognition & understanding	Converse (1964)
	Political cognition	Himmelstrand (1960)
	Political code	Padioleau (1975, 1976a,b)
	Ideological constraint	Sullivan et al. (1978)
	Conceptual sophistication	McClosky (1967)
	Political thinking	Barber (1973)
	Political comprehension	Converse (1962)
	Political alertness	Himmelstrand (1960)
Information processing	Graber (1984)	
Miscellaneous	Political competence	Almond & Verba (1963)
	Political rationality	Shapiro (1969)
	Political relatedness	Eulau & Schneider (1956)
	Ideological innocence	Kinder & Sears (1985)
	Civic literacy	Milner (2002)
	Civic intelligence	Johnson (2009)
	Cultural sophistication	Trow (1959)
	System proximity	Di Palma (1970)
	Simplism	Selznick and Steinberg (1969)

<i>Explanation</i>	<i>Concept</i>	<i>Research</i>
	Information capability	Krause (1997)
	Issue salience	RePass (1971)
	Issue consistency	Nie et al. (1976)
	Issue voting	Kessel (1972)
	Policy voting	Brody & Page (1972)
	Voter sophistication	Carmines & Stimson (1980)

Source: Neuman (1986: 192); author

Note that this selection of research represents a small sample of a large body of work where political knowledge, conceptualised in one specific form or another, plays a key role in explaining political attitudes and behaviour. See also Figure 1.3 for an overview of survey based definitions of political knowledge.

models estimated for five general elections and more specific models for the 2006 post-election survey are presented in the penultimate section. In the final section, there are some concluding remarks about the difficulties of determining the origins of political knowledge and the important positive externalities of individual citizens having greater awareness of politics and public policy making choices.

## 7.1 Determinants of Political Knowledge

In addition to definitional issues regarding what is political knowledge and how it should be operationalised, there has been an equally important debate concerning what are the origins of factual, or objective, political knowledge (Neuman 1986; Bennett 1988; Delli Carpini and Keeter 1996).<sup>36</sup> Most studies accept that variation in individual intelligence is a key determinant of differences in factual knowledge within a population. Unfortunately, most mass surveys do not have direct measures of intelligence such as an IQ test. Consequently, this has led to the use of proxy indicators. Most scholars employ education as an indicator of intelligence, while others, such as Luskin (1990), have used alternative measures. This debate highlights the difficulties in explaining why some citizens know more about politics than others. An overview of how scholars have explained why there are differences among citizens in knowledge of politics is presented in Box 7.1.

<sup>36</sup> The ability to successfully answer factual questions in a survey interview tests a person's level of 'declarative knowledge' or their ability to say what they know. This contrasts with 'procedural knowledge', which is the ability to do something while at the same time it may be impossible to explain how the skill is exercised. Think here of explaining how you are able to ride a bicycle. This topic is a central theme of the study of implicit knowledge presented in Chapter 6.

The ‘rounding-up’ of the ‘usual suspects’ perspective adopted in Box 7.1 underscores a critical point: most scholars agree that motivation, ability, and opportunity to become aware of political messages (the MAO model) does help to explain differences in knowledge among citizens. Box 7.1 also reveals that the operationalisation of political knowledge in studies is wide ranging and often reflects the specific theory a scholar is testing. Nonetheless, the key point here is that the content of political knowledge is open-ended and may refer to (a) cognitive, (b) non-cognitive, or (c) pre-cognitive sources. This fact motivates the use of ‘dual processing’ models of thinking, which are outlined in the next section. This is an important theme that will be explored later in Chapter 8.

The primary purpose of this chapter is to map out the determinants of factual political knowledge in the Czech Republic using a set of post-election survey data for five general elections, i.e. 1996, 2002, 2006, 2010 and 2013, collected over a three-decade period. There is currently no ‘standard model’ of what factors explain differences in level of political knowledge among citizens. This is because studies are often limited to whatever political quiz questions have been asked in a political attitudes survey. There is a certain standardisation because the Comparative Study of Electoral Systems (CSES) has instructed the designers of post-election surveys to implement specific types of knowledge questions – a topic discussed earlier in Chapter 2.

Within the Czech Republic the number of political knowledge questions was restricted to three standard CSES items in 1996 and 2002; however, in the following elections a larger battery of 6 to 8 items was asked. Using an Item Response Theory (IRT) modelling approach to estimate a political knowledge score for each respondent, as described in Chapter 3, it is possible to make comparisons across elections with different scales (in terms of number of items and types of questions). This is the strategy adopted in this chapter for the five national elections examined.

Within the following sections of this chapter the determinants of political knowledge will be examined in terms of *opportunities* to obtain knowledge, *motivation* to become informed, *ability* to understand political messages, and *resources* to secure information about public affairs. The broad OMAR model will be examined for the 2006 election because there are many more variables available in this post-election survey. In this chapter, there will also be a test of the impact of ability (education) on explaining level knowledge where the impact of excluding this factor is explored in the Opportunity-Motivation-Resources (OMR) model. A restricted version of the OMAR model, i.e. the Motivation-Ability-Opportunity (MAO) model, will be implemented for all elections with a more restricted range of explanatory variables.

The modelling results presented in this chapter will show two things. First, the determinants of political knowledge have been largely constant across all general elections. Second, the main determinant of polit-

### **Box 7.1: What are the determinants of political knowledge? A case of ‘rounding up the usual suspects’**

Bennett (1988) concluded that the search for the determinants of political knowledge is often a process of ‘rounding up the usual suspects’, i.e. age, sex, education, political interest, etc. Additional variables are often supplemented to this standard list on the basis of data analysis. Most models of political knowledge include only individual-level variables where no account is taken of contextual factors such as the ‘information environment’. This makes such models susceptible to the ‘individualistic fallacy’ (or fundamental attribution error) where it is assumed that individual-level outcomes may be explained solely using personal characteristics. Political knowledge is known to be inter-related with a wide variety of attitudinal and behavioural factors. This implies that knowledge has a complex relationship with many other variables. Most models of the determinants of political knowledge examine what causes individuals to have different levels of knowledge. These unidirectional or recursive causal models, while unrealistic, are estimated because the alternative, i.e. non-recursive causal models (estimated by Luskin 1990 or the panel data model presented in Cassel and Lo 1997), may only be estimated when unrealistic identification assumptions are made. For these reasons, Smith (1989: 189–196), Delli Carpini and Keeter (1996: 180–184), Bartle (2000: 483 fn.7) and others present simpler, though theoretically less satisfying, recursive models of political knowledge. Below are some examples of how scholars have explained which citizens are best able to recall political facts in a survey interview.

#### *USA, Neuman (1986: 115–117)*

In the Paradox of Mass Politics, W. Russell Neuman develops the concept of ‘political sophistication’, which is composed of three facets: salience, knowledge and conceptualisation. The sources of sophistication are explored in terms of three ‘measured variables’, i.e. education, occupation and income. These measured variables are indicators of “unmeasured variables”, i.e. class culture, civic duty, cognitive ability and involvement in the economic system which represents ‘three theories of the origins of sophistication’. In general, Neuman’s (1986: 118) model fits with the MAO perspective where there is an emphasis on ‘a spiral theory’ of reciprocal causation where ‘over time, sophistication is both influenced by and influences’ the determinants of sophistication.

#### *USA, Delli Carpini and Keeter (1996: 178–217)*

The ‘influences on political knowledge’ are modelled using the ‘ability-motivation-opportunity triad’. A path model of political model includes socio-demographic indicators: sex, age, race and region, a cluster of structural variables (education, income and ‘politically impinged occupations’) and a cluster of behavioural variables (interest in politics, attention to political news and media messages, interpersonal discussion of politics, political efficacy, trust and sense of civic duty). Within this path model all explanatory variables are allowed to have both direct and indirect effects. There is no classification of variables as being indicators of ability, motivation or opportunity, e.g. education may be viewed as a measure of ability (intelligence), motivation (through interaction with interest in politics and media use) and opportunity (stemming from differential access to higher education). Political participation measures are not included in the models as explanatory variables because knowledge is seen to cause participation rather than vice versa (Delli Carpini and Keeter 1996: 347 fn.4; Bennett 1994).

*USA, Cassel and Lo (1997)*

The key predictors of political knowledge are (1) education and (2) political involvement. The causal mechanisms driving these two predictors are not fully understood and are explained in terms (a) internal psychological forces explained in terms of cognitive mobilisation, (b) external social roles examined using structural role theory and (c) social institutions. Political knowledge indicators include three fact-based and two-concept items, i.e. is one party more conservative? Which party?

*UK, Bartle (2000)*

A model including both social and psychological factors is estimated using a 'bloc recursive' approach where it is assumed that 'variables within any given bloc are caused by those variables in the blocs that precede it'. In a similar manner to the recursive model implemented by Delli Carpini and Keeter (1996) the determinants of political knowledge are introduced in the following order: Bloc 1 – age, sex and race; Bloc 2 – level of education; Bloc 3 – social class, employment sector, housing tenure, trade union membership and marital status; and Bloc 4 – interest in election outcomes, media use and party attachment.

ical knowledge is motivation where being interested in politics is associated with higher levels of awareness.

## 7.2 Motivation, Ability and Opportunity (MAO)

The MAO model of the determinants of factual political knowledge represents a 'standard' approach to exploring what factors shape why some citizens can correctly recall in a survey interview more facts about politics than others. From this perspective, it is argued that individuals who are (1) *motivated* by being interested in politics for example; (2) who have the cognitive *ability* to understand political information, typically operationalised though level of education; and (3) *opportunities* to access political news through higher levels of media use for example (Bennett 1995; Delli Carpini and Keeter 1996; Althaus 2003; Fraile 2013).

Zaller's (1992) Receive Accept Sample (RAS) model of mass opinion highlights the importance of individual differences in attention paid to politics, but does not explore in a systematic manner the sources of these differences (see also Zaller and Feldman 1992). Similar to Zaller's (1992) conception of survey response, the MAO model assumes that there are important variations across individuals in the degree to which they think about politics. Here some citizens have a high level of cognitive engagement and typically have higher levels of factual political knowledge. In contrast, others have little interest and factual knowledge and perhaps use implicit political knowledge based on evaluations of candidate photos when making decisions, as described earlier in Chapter 6.

The theoretical origins of the MAO model lie in cognitive psychology and more specifically in the ‘dual processing’ family of theories. Here information, such as political facts, is dealt with in distinct ways depending on a person’s level of interest and engagement with politics. For example, a citizen who is not interested in politics may process political messages in an automatic or subconscious way. Alternatively, something interesting or disturbing in the message may motivate them to decide that greater attention is required. This results in the message being subjected to more careful thinking and consideration (Marcus, Neuman and MacKuen 2000: 45–64; Evans and Stanovich 2013).

The main insight of the dual processing conception of reasoning is that humans collect and use information through both conscious thinking and subconscious learning. Although the idea that decision-making may involve a ‘dual process’ has a long history there are differences among those who use the term today. For example, Jonathan St. B. T. Evans (1984, 2007) first coined the term ‘dual process’ to refer to an integrated system of thinking with implicit and explicit components. In contrast, Daniel Kahneman (2003, 2011) discussed ‘dual processing’ as two distinct styles of thinking based on intuition or reasoning that lead either to rational or biased decision-making. As a result, dual processing accounts of human thinking and decision-making have been criticised for having multiple meanings, a lack of coherence and proposing two explanations for phenomena when one would suffice (see Evans 2007; Evans and Stanovich 2013).

Notwithstanding these important debates, the MAO approach to political knowledge has been most influenced by two specific dual processing theories: the Elaboration Likelihood Model (ELM) of Petty and Cacioppo (1986), and the Heuristic Systematic Model (HSM) developed by Chaiken (1987) and Chaiken, Liberman and Eagly (1989). With a certain minimum level of ability, often operationalised in terms of level of education, a citizen’s thinking about politics is seen to depend critically on their level of motivation. Citizens with high motivation engage with political news, or facts, by expending cognitive effort, as the ELM argues, or perhaps engage in ‘systematic’ thinking, as the HSM asserts. This is most often seen to be the social-psychological basis for acquiring high levels of explicit (factual) political knowledge. In contrast, individuals with low interest in politics rely on cognitive shortcuts that are known as ‘peripheral cues’ in the ELM and ‘heuristics’ in the HSM.

In such situations, it makes sense to think of citizens employing ‘implicit’ political knowledge, such as, for example, evaluating candidate competence on the basis of facial photos to make electoral choices. A key implication of the MAO model for democratic systems of governance is that effective representation depends on (1) ensuring the content of political messages is consonant with most citizens’ level of thinking about politics, and (2) making certain political messages motivate individuals

to think more deeply about public policy questions. Figure 7.1 presents in a summary way the expected effects of all MAO explanatory variables in shaping levels of political knowledge. Each of the three explanations has multiple indicators, except in the case of ability, where additional indicators measuring features of cognitive ability, such as intelligence, are generally unavailable.

### *7.2.1 Motivation to seek political knowledge*

A key feature of both citizen knowledge and participation in public affairs is being motivated to learn about politics. Political motivation not only determines interest in politics, but also underpins a citizen's sense of efficacy to engage in political activities in the first place. Moreover, it is central to possessing political attitudes as a sense of attachment to a political party, a left- or right-wing ideological orientation, and being satisfied with democracy. As noted above, a key facet of motivation is a sense of political efficacy: the ability to understand politics and influence political actors. Unfortunately, a standard set of political efficacy measures are not available for all post-election surveys between 1996 and 2013. Two questions asking if 'who is in power makes a difference?' and 'who people vote for makes a big difference?' test the degree to which Czech voters feel participation in elections is meaningful. The exact meaning of these two CSES questions has been the subject of debate: a topic discussed in a later section of this chapter. Another important source of political motivation in many countries is religion because moral issues often have important public policy implications.

### *7.2.2 Ability to use political information*

Many political theories argue that a citizen's ability to comprehend and understand political information is essential for an effective system of democratic governance. This 'cognitive ability' is most often measured in terms of level of education and is seen to be a fundamentally important resource in converting interest in politics and access to information, typically carried through the media, into long-term information about political life (Converse 1974: 730; Converse 1975: 96–97; Zaller 1992).

However, it is important to be aware that there is no agreement about how to interpret the meaning of education effects. Highton (2009: 1564) argues that there is 'a spurious relationship between education and political sophistication', although they are often strongly correlated: highlighting the old maxim that correlation is not causation. Here two facts are important. First, there is a strong positive correlation between education and knowledge and voter turnout. Second, with higher general levels of education there has not been a similar increase in political knowledge and turnout. These two facts suggest that education is not a measure of cognitive ability, but is a proxy for 'pre-existing characteristics', such

**Figure 7.2: OMAR model and expected associations for objective and interpersonal political knowledge**

<i>Models and indicators</i>	<i>Effect</i>	<i>Notes</i>
<i>Opportunity</i>		
Sex (female)	-	Mondak & Anderson (2004)
Marital status: married	+	Bartle (2000)
Age, linear	+	Alvarez & Brehm (2002: 47, 49)
Age, non-linear	-	Nie et al. (1996: 190–192)
Community size (small to large)	-	Viswanath & Finnegan (1996); Gaziano (1997); Neuman (1986); Althaus (2003: 16)
Interested in campaign	+	Dalton et al. (1998); Hetherington (1996)
Contacted a politician	+	Kenski & Stroud (2006)
Employed	+	Bartle (2000); Althaus (2003)
Civic activism scale	+	Galston (2001)
Newspaper reading	+	Delli Carpini & Keeter (1996: 183), in contrast Neuman et al. (1992)
Television news	+	Delli Carpini & Keeter (1996: 183)
Internet use	-	Prior (2005: 582)
Media use scale	+	Berelson et al. (1954); Chaffee & Frank (1996)
Trade union membership	+	Bartle (2000)
<i>Motivation</i>		
Interest in politics	+	Delli Carpini & Keeter (1996: 183)
Party attachment	+	Bartle (2000); Grönlund & Milner (2006: 400)
Trust in institutions scale	+	Delli Carpini & Keeter (1996: 183)
Political efficacy	+	Delli Carpini & Keeter (1996: 183)
Left- or right-wing orientation	+	Fortunato & Stevenson (2016)
Electoral participation	+	Delli Carpini & Keeter (1996: 226–227)
Non-electoral participation	+	Verba, Schlozman & Brady (1995); Milner (2002)
Satisfied with democracy	+	Fraille (2013); Karp, Banducci & Bowler (2003)
Retrospective/prospective economic evaluations	-	Duch et al. (2000); Duch (2001)
Egocentric/sociotropic evaluations	+/-	Willette (1999); Gomez & Wilson (2001)

<i>Models and indicators</i>	<i>Effect</i>	<i>Notes</i>
Satisfaction with government	+	Hibbing & Theiss-Morse (2002: 70)
Who is in power matters	-	Vowles (2008); Fortunato & Stevenson (2013)
Voting matters	+	Banducci & Karp (2009)
Religion	+	Harris (1994: 57–58)
<i>Ability</i>		
Level of education (intelligence)	+	Sniderman et al. (1990); Althaus (2003); Caplan & Miller (2010); Krause (1997); cf. Highton (2009)
<i>Resources</i>		
HH standard of living (subjective)	+	Bennett (1988)
Professional occupation	+	Neuman (1986)
Self-employed	+	Bartle (2000)
Semi/unskilled worker	-	Delli Carpini & Keeter (1996)
Skilled manual worker	-	Althaus (2003)

Source: author

Note that the parameter effects are indicated as positive (+), negative (-), or none (zero, 0) where positive and negative effects are generally statistically significant ( $p \leq .05$ ).

as family socialisation or holding a central position in a social network (Tenn 2007; Kam and Palmer 2008; Berinsky and Lenz 2011; Bennett 1989; Brody 1978; Nie et al. 1996). It has been argued by Nie et al. (1996) and Persson (2013) that it is relative rather than absolute level of education that is most important in explaining differences among citizens.<sup>37</sup>

A sociological rather than psychological interpretation of the education-knowledge relationship is evident in Jennings and Niemi's (1981) 'social ranking' perspective and Neuman's (1986) 'socialisation' explanation of the origins of political knowledge. Others, such as Luskin (1990), have operationalised ability as intelligence, where the latter is measured using an interviewer's evaluation of the respondents' performance. This approach is justified on the grounds that education is a resource rather than a cognitive ability, and this fits with Highton's (2009) argument

<sup>37</sup> Cassel and Lo (1997: 319) note: 'If education represents mental abilities, the nation's growing literacy and graduation rates should be mirrored by a collective rise in political literacy. If education represents social location, then rising education levels are relative and should not affect political literacy. However, if social location became more important – rising education levels or not – the increasing salience of education should increase how education impacts political literacy.'

noted above. Notwithstanding these important methodological issues, the MAO model contends that having the initial motivation and opportunity to learn about politics is strongly influenced by a person's ability to understand the information received. Lack of cognitive ability is likely to lead initially to frustration and later to alienation and disinterest, and hence to lower levels of knowledge.

### *7.2.3 Opportunity to obtain political information*

Having the opportunity to acquire political information is also a necessary, though not sufficient, condition for being informed. The opportunity to acquire political information is typically associated with interpersonal networks, such as the family, school, workplace, and organisations such as trade unions. In this chapter, family effects are examined primarily in terms of marital status, where it is expected that married couples have greater prospects for gathering political information through wider and more intense social interaction than is the case for single people. A similar 'social network exposure' argument may be applied to employment, where lack of employment is associated with greater social isolation and lower exposure to political messages.

Of course, opportunities to become informed also relate to life circumstances and this is likely to be strongly influenced by factors associated with social stratification. Here the focus will be on two social position variables: age and sex (Frazer and Macdonald 2003: 69; Mondak and Anderson 2004). Age effects will be examined in terms of linear and non-linear (age-squared) components. Often in political research, age is equated with greater experience, and hence, all else being equal, one would expect older citizens to have higher levels of political knowledge. In contrast, being a woman has been consistently found to be associated with lower levels of political knowledge and many other types of factual knowledge. The reason(s) for this gender gap are currently not well understood (e.g. Lizotte and Sidman 2009; Ackerman et al. (2001).

## **7.3 The Extension of MAO into OMAR**

One potential extension of the MAO model is to include a person's resources into the explanation of differences in political knowledge. Here inspiration is taken from two sources.

The first source is the Civic Voluntarism Model of political participation, where it is argued that acquiring political knowledge is easier for those with greater free time and money (Verba, Schlozman and Brady 1995; Brady, Verba and Schlozman 1995; Burns, Schlozman and Verba 2001). To paraphrase Verba, Schlozman and Brady's (1995: 271) pithy explanation of low political participation, citizens lack political knowledge because 'they can't, they don't want to, or nobody asked them to'

become informed about public affairs. This view may be explained as follows. Some individuals have low levels of political knowledge because of inabilities, such as a lack of time for gathering information, skills for understanding the information received, money to acquire political news, or the free time to watch such news. Not wanting to have political knowledge refers to the importance of interest in politics and the motivation to be informed. The 'nobody asked' factor highlights the importance of social networks, where the acquisition of political knowledge has an interpersonal component.

The second source is Robert C. Luskin's (1990: 338) model of political sophistication, which argues that the determinants of political knowledge are opportunity (exposure to information, especially the print media), motivation (personal and parents' interest in politics, life experience indicated by age), ability (intelligence) and resources (income, occupation, education and sex): that may be denoted by the acronym OMAR. Luskin's model incorporates reciprocal causation, where personal interest in politics both stimulates political knowledge and is caused by exposure to political messages. One of the key differences between Luskin's (1990) OMAR model and the MAO model presented in the previous section is the operationalisation of ability using 'education' or 'intelligence' indicators, respectively.

In the OMAR model, level of education is classified as a resource in a similar manner to the Civic Voluntarism Model and ability is operationalised as the interviewer's evaluation of the respondent's 'intelligence' during the interview (Luskin 1990: 341–342). In this and later chapters, interviewer evaluations of a respondent's knowledge of public affairs is viewed as a form of 'interpersonal political knowledge', which is distinct from possession of factual knowledge measured with correct/incorrect quiz items. Consequently, within this book the OMAR model of political knowledge will (a) measure ability with level of education, and (b) measure resources based on household income and occupation-based social class indicators.

## 7.4 Data and Methods

All of the data sets used in this chapter are post-election surveys that contain a battery of at least three political knowledge items. In addition, many of these surveys included an interviewer question that evaluated the political knowledge of the respondent after the interview had been completed. This variable is used as an indicator of 'interpersonal political knowledge' because it shows how impressive a respondent appears to another person (the interviewer) during a discussion of politics (based on a post-election survey questionnaire).

The insight here is that citizens who have personal influence over others must appear knowledgeable in a social rather than purely individual academic sense. Here inspiration is drawn from Katz and Lazarsfeld's

(1955: 25–34) concept of ‘opinion leaders’ and their ability to persuade others of their superior wisdom and the correctness of their views. With interpersonal knowledge there is the question of causality, where high interpersonal knowledge depends on first having personal knowledge of politics. This implies there should be a strong but imperfect correlation between factual and interpersonal political knowledge.

Some of the political quiz questions form part of the data files archived with the Comparative Study of Electoral Systems (CSES) discussed earlier in Chapters 2 and 3. Exploring the determinants of political knowledge in the context of general elections must take account of the fact that most citizens’ level of involvement with politics is at a minimum. And that beyond the intense partisan activity surrounding national election campaigns, the general level of political knowledge is likely to be lower as popular interest and exposure to political messages lessens (note, Anderson, Tilley and Heath 2005: 292–300; Erikson and Wlezien 2012: 146–149). However, many of the political knowledge items asked are of a general nature and do not refer to information about elections, but capture survey respondent’s ability to recall facts about the political system and its history.

#### *7.4.1 Model specification for MAO and OMAR*

The goal of exploring the determinants of objective or factual political knowledge across time requires the estimation of standard models with the same variables. This means that there are constraints on the models that can be estimated because the most extensive explanatory model that may be estimated is restricted to the post-election survey with the smallest number of independent variables. As a result, there is the danger of model misspecification and omitted variable bias where at least one important causal factor is excluded from analysis. This results in biased and inconsistent parameter estimates because the model error term is correlated with one or more of the explanatory variables (note, Greene 2012: 57, 219–220; Wooldridge 2009: 89–93).

Consequently, a standard strategy with regression modelling in the social sciences has been to include as many ‘control variables’ as possible in order to minimise any omitted variable bias. This strategy has been criticised by Achen (2002, 2005a) and Ray (2003, 2005) who show that the inclusion of additional control variables in a model that is initially misspecified only makes matters worse. Therefore, the approach adopted in this chapter is to estimate models where all explanatory variables have some theoretical justification.

## **7.5 Modelling Results and Discussion**

In order to model the determinants of political knowledge across all elections that form part of the CSES research programme, it is necessary

to used only those variables that are present in all five post-election surveys between 1996 and 2013. It is also important to keep in mind that the number and quality of political knowledge questions varied considerably. A small number of items included in the 1996 and 2002 post-election surveys did not form strong reliable knowledge scales. Fortunately, later surveys such as those fielded in 2006, 2010 and 2013 had ten knowledge items and they formed much more robust scales. The Item Response Theory (IRT) statistical framework, introduced earlier in Chapter 2, allows a consistent set of MAO models to be estimated for all general elections since 1996.

### *7.5.1 MAO models for all elections, 1996–2013*

It is important to note that all variables were rescaled to a common 0-1 scale allowing comparison to be made between and across models. Therefore, differences in parameter sizes may be interpreted as (1) reflecting contrasting explanatory effects in the same model where education typically has the largest coefficient, and (2) changing effects across election years where the impact of the two age variables, i.e. linear and non-linear (age squared), declines considerably between 1996 and 2002. The bottom part Table 7.1 shows that the model fit (adjusted  $R^2$ ) varies considerably from a low of 14% in 2002 to a high of 30% in the following lower chamber election of June 2006.

The main reason for this large difference in explained variance is that almost all of the motivation factors are statistically significant ( $p \leq .05$ ) in the 2006 model, but relatively few are in 2002. Specific motivation effects are significant in some elections and not others – e.g. satisfaction with democracy and left-wing orientation. In contrast, other motivational factors, such as party attachment and the belief that ‘who people vote for matters’, are important in all the models estimated. One reason for the better model fit for 2006 is that this election was much more polarised in left-right terms than all the other elections, and this strengthened the link between partisanship, ideology, and knowledge. This is a theme explored later in Chapter 10 in an analysis of the link between political knowledge and correct voting.

As expected, a respondent’s ability, operationalised in Table 7.1 in terms of level of education, plays a consistent and strong role in promoting higher levels of political knowledge. With regard to the opportunity factors, age plays a consistent role in its linear and non-linear (squared) forms within all the models estimated. The linear effects of age are positive, indicating that knowledge increases with age. However, the non-linear age impact on knowledge is negative, indicating that factual knowledge declines in old age. These age profiles are similar to those observed for voter turnout and perhaps reflect similar underlying processes: knowledge and electoral participation decline with illness and infirmity.

The gender gap highlighted in previous research on political knowledge in the United States and Europe is strongly evident in the model results shown in Table 7.1, where the impact has been largely constant (if the 95% confidence intervals of the parameter estimates are examined) over time. This stability suggests that the development of Czech politics since 1996 has not made it easier for women to become more knowledgeable. The remaining opportunity factors, such as trade union membership, marital status, and being employed, have weak or inconsistent effects.

### *7.5.2 OMAR models for factual and interpersonal knowledge, 2006*

One of the disadvantages of the common model approach for all five general elections between 1996 and 2013 is that the range of explanatory factors is restricted to items asked in all the surveys. For some surveys, many more questions reflecting Opportunity, Motivation, Ability and Resource (OMAR) effects are available for analysis. Consequently, it makes sense to examine in greater detail for a single election the impact of a larger set of OMAR variables. In addition, it is prudent to use such an analysis in a comparative manner to study if there are systematic differences in the determinants of (a) factual and (b) interpersonal forms of knowledge.

Table 7.2 reports four models. The first two models on the left have the largest set of explanatory variables for explaining both factual and interpersonal political knowledge. Models 3 and 4 on the right have a smaller set of independent variables reflecting, broadly speaking, only those factors that were statistically significant in Models 1 and 2. Looking first at the larger models (M1 and M2) we can see that many of the variables that have a statistically significant impact ( $p \leq .05$ ) on factual knowledge also operate similarly with interpersonal knowledge, suggesting both forms of knowledge are positively correlated. At a bivariate level this is indeed the case (Pearson's product moment correlation = .58,  $p \leq .001$ ; Spearman rho = .57,  $p \leq .001$ ; Kendall's tau b = .47,  $p \leq .001$ ), and so this overlap is not surprising. What is more interesting are the differences between models M1 and M2.

For example, with regard to motivation, being interested in the 2006 election campaign has a significant impact in boosting interpersonal knowledge, but not its factual counterpart, while trade union membership has the opposite effect. Overall, one could interpret the differences in determinants of factual versus interpersonal knowledge as reflecting respondents' level of opinionation. Interpersonal knowledge is more strongly determined by factors reflecting (1) having definite political attitudes such as left- or right-wing orientation and identifying with a particular party and (2) being more engaged in public affairs, which is characterised by higher levels of media use and electoral participation and the belief that how people vote matters in elections. The bottom-left

**Table 7.1: A comparison of standard MAO models of the determinants of objective political knowledge, 1996–2013**

<i>MAO models and variables</i>	1996		2002		2006		2010		2013	
	<i>B</i>	<i>Sig.</i>								
<i>Motivation</i>										
Satisfied with democracy	.03	.148	.01	.420	.04	≤.001	.02	.015	.02	.080
Left-wing orientation	.02	.504	.01	.693	.04	.001	.03	.023	.01	.473
Right-wing orientation	.04	.092	.03	.163	.06	≤.001	.05	≤.001	.04	.002
Party attachment	.07	.001	.06	.004	.06	≤.001	.04	.002	.05	≤.001
Govt. in power matters	-.22	≤.001	-.02	.580	-.08	.002	-.07	.001	-.09	≤.001
Voting matters	.18	≤.001	.09	.024	.08	.002	.06	.003	.07	.002
Attend religious services	-.07	.048	-.02	.489	.01	.418	.03	.155	.02	.344
<i>Ability</i>										
Education level	.25	≤.001	.16	≤.001	.22	≤.001	.16	≤.001	.19	≤.001
<i>Opportunity</i>										
Trade union member	.01	.712	≤.01	.963	.03	.096	.02	.405	.04	.078
Age, linear	.94	≤.001	.25	.185	.23	.017	.25	.007	.31	.002
Age, non-linear	-.94	≤.001	-.16	.479	-.25	.027	-.22	.038	-.30	.011
Sex (female)	-.10	≤.001	-.06	.002	-.06	≤.001	-.05	≤.001	-.05	≤.001
Marital status: single	.08	.040	.02	.663	.01	.520	.04	.038	.01	.412
Marital status: married	.04	.121	.04	.047	.02	.075	.05	≤.001	.02	.048
Employed	-.02	.329	.01	.662	-.01	.334	-.01	.556	.01	.373
Intercept	.20	≤.001	.49	≤.001	.32	≤.001	.30	≤.001	.27	≤.001
<i>Model fit statistics</i>										
R	.45		.37		.55		.45		.49	
R <sup>2</sup>	.21		.14		.30		.20		.24	
Adjusted R <sup>2</sup>	.20		.13		.30		.19		.24	
SEE	.33		.26		.20		.20		.19	
N	1229		944		2002		1857		1653	

Source: Czech National Election Studies, 1996–2013

Note the dependent variable is level of political knowledge that has been estimated as an IRT model using the correct answers to political quiz questions in each post-election survey as part of the CSES research programme. All variables are scaled 0–1 to aid interpretation.

part of Table 7.2 shows that resource effects are limited to subjective evaluations of a household's standard of living. Here greater income is linked with less factual and interpersonal knowledge. Almost none of the occupation-based social class variables have statistically significant effects.

Turning now to the reduced or 'standard' models employed earlier in Table 7.1, we see once again that the determinants of factual and interpersonal knowledge are almost identical as the coefficients have similar sizes. This suggests that the core determinants for both types of knowledge, in 2006, were very alike. The model fit for all the models reported in Table 7.2 is reasonably good (adjusted  $R^2$  ranges from 30% to 53%) and the models for interpersonal knowledge work best. Moreover, the reduced models employed earlier in Table 7.1 explain a reasonable amount of observed variance suggesting that the standard models for all five elections are reasonably well specified and should not suffer from omitted variable bias.

One of the most powerful and consistent effects in Tables 7.1 and 7.2 is the impact of ability, or education, on level of factual and interpersonal knowledge. One concern here is that education and knowledge are too strongly correlated and may even be endogenous, i.e. education and knowledge are so strongly intertwined that they are in effect the same thing. Consequently, it makes sense not to use education as an explanatory variable because it may mask the effects of other important explanatory factors. This is the key question addressed in the next subsection.

### *7.5.3 OMR models for factual and interpersonal knowledge, 2006*

Within political science there is a long-standing debate about how to correctly interpret socio-demographic indicators such as age, sex, and education. The key problem is that each of these personal social position factors reflects many aspects of life experience. In other words, the single variable labelled 'level of education' reflects such things as schooling, socialisation, family background, social network membership, and immersion in social values and norms. Here it is impossible to extract any of these specific features from the measure often available in survey data. More than two decades ago, Christopher H. Achen (1992: 198, 209) stressed the importance of not using socio-demographic variables in explanatory models of key electoral attitudes and behaviour:

[...] when researchers are being theoretically serious, demographics should be discarded. They belong neither in party ID nor vote equations. The voter's political history is the only causal variable. Age, social class, and other background factors will be correlated with history of course; they may provide a serviceable summary for purely descriptive purposes. But they do not belong in explanatory equations. [...] Rigorous theorizing is needed. We need to know not that education matters but rather what is it about education that makes the voter choose differently. Demo-

**Table 7.2: A comparison of OMAR models of objective and interpersonal political knowledge, 2006**

<i>OMAR models and variables</i>	<i>M1</i>		<i>M2</i>		<i>M3</i>		<i>M4</i>	
	<i>Objective</i>		<i>Interpersonal</i>		<i>Objective</i>		<i>Interpersonal</i>	
	<i>B</i>	<i>Sig.</i>	<i>B</i>	<i>Sig.</i>	<i>B</i>	<i>Sig.</i>	<i>B</i>	<i>Sig.</i>
<i>Opportunity</i>								
Sex (female)	-.04	≤.001	-.04	≤.001	-.06	≤.001	-.07	≤.001
Marital status: married	.01	.337	≤.01	.924	.02	.075	.02	.066
Marital status: single	.02	.228	.01	.604	.01	.520	.02	.298
Age, linear	.09	.342	.08	.343	.23	.017	.22	.010
Age, non-linear	-.16	.154	-.05	.606	-.25	.027	-.14	.157
Community size	.05	≤.001	.00	.733	NA	NA	NA	NA
Interested in campaign	.01	.323	.04	≤.001	NA	NA	NA	NA
Contacted a politician	≤.01	.961	-.01	.531	NA	NA	NA	NA
Employed	-.01	.433	.02	.144	-.01	.334	.00	.975
Works in private sector	.02	.103	≤.01	.670	NA	NA	NA	NA
Civic activism scale	-.01	.479	.02	.209	NA	NA	NA	NA
Media use scale	.04	.001	.07	≤.001	NA	NA	NA	NA
Trade union member	.03	.015	.02	.138	.03	.096	.04	.009
<i>Motivation</i>								
Interest in politics	.12	≤.001	.17	≤.001	NA	NA	NA	NA
Party attachment	≤.01	.741	.02	.052	.06	≤.001	.09	≤.001
Trust in institutions scale	-.01	.407	≤.01	.836	NA	NA	NA	NA
Political efficacy	.08	.001	.03	.184	NA	NA	NA	NA
Left-wing orientation	.02	.204	.02	.046	.04	.001	.03	.015
Right-wing orientation	.04	≤.001	.03	.001	.06	≤.001	.06	≤.001
Electoral participation	.07	≤.001	.07	≤.001	NA	NA	NA	NA
Satisfied with democracy	.02	.032	.01	.578	.04	≤.001	.02	.005
Retrospective evaluation	-.11	≤.001	-.05	.011	NA	NA	NA	NA
Prospective evaluation	≤.01	.897	-.03	.190	NA	NA	NA	NA
Participatory activism	.10	.034	.04	.357	NA	NA	NA	NA
Consumer activism	-.05	.022	-.04	.066	NA	NA	NA	NA
Protesting activism	-.11	.013	-.02	.645	NA	NA	NA	NA
Satisfaction with govt.	.01	.373	≤.01	.960	NA	NA	NA	NA
Who is in power matters	≤.01	.883	-.01	.556	-.08	.002	-.05	.024
Voting matters	-.01	.743	.04	.003	.08	.002	.17	≤.001
Attend religious services	.01	.679	≤.01	.785	.01	.418	.01	.700

<i>OMAR models and variables</i>	<i>M1</i>		<i>M2</i>		<i>M3</i>		<i>M4</i>	
	<i>Objective</i>		<i>Interpersonal</i>		<i>Objective</i>		<i>Interpersonal</i>	
	<i>B</i>	<i>Sig.</i>	<i>B</i>	<i>Sig.</i>	<i>B</i>	<i>Sig.</i>	<i>B</i>	<i>Sig.</i>
<i>Ability</i>								
Level of education	.14	≤.001	.13	≤.001	.22	≤.001	.22	≤.001
<i>Resources</i>								
HH standard of living	-.05	.046	-.13	≤.001	NA	NA	NA	NA
Higher professional	.02	.316	≤.01	.893	NA	NA	NA	NA
Lower professional	.01	.567	-.02	.258	NA	NA	NA	NA
Self-employed	≤.01	.890	.02	.215	NA	NA	NA	NA
Semi/unskilled worker	-.01	.797	-.02	.288	NA	NA	NA	NA
Skilled manual worker	-.02	.272	-.04	.030	NA	NA	NA	NA
Intercept	.35	≤.001	.33	≤.001	.32	≤.001	.20	≤.001
<i>Model fit statistics</i>								
R	.62		.72		.55		.65	
R <sup>2</sup>	.39		.53		.30		.43	
Adjusted R <sup>2</sup>	.38		.52		.30		.42	
SEE	.19		.17		.20		.18	

Source: Czech National Election Studies, CVVM, June 9–21, 2006, n=2002

Note the dependent variables are (1) level of political knowledge that has been which is estimated as an IRT model using the correct answers to political quiz questions in each post-election survey as part of the CSES research programme, and (2) interviewer evaluation of respondents' level of political knowledge during the survey interview. Models 1 and 2 (M1, M2) are larger models with more explanatory variables for factual and interpersonal political knowledge respectively. Models 3 and 4 (M3, M4) are the smaller 'standard' models, reported in Table 7.2, for factual and interpersonal political knowledge respectively. HH refers to 'household', and NA indicates 'not applicable'. Models based on an OLS estimator and all variables are scaled 0–1 to aid interpretation. Retrospective and prospective evaluations relate to the economy.

graphics are clues, not hypotheses. No model of the voter's decision process from any theoretical perspective is likely to bring us back to linear regression with demographics.

This general criticism of linear regression models is consonant with Charles Ragin's (1987) Qualitative Comparative Analysis (QCA) methodology, which argues that variables such as education are often included in regression models simply because they tend to be statistically significant. Unfortunately, examining many articles reporting regression models with education parameters leads to little gain in

**Table 7.3: A comparison of OMR models of objective and interpersonal political knowledge that exclude education effects, 2006**

<i>OMR models and variables</i>	<i>M1</i>		<i>M2</i>		<i>M3</i>		<i>M4</i>	
	<i>Objective</i>		<i>Interpersonal</i>		<i>Objective</i>		<i>Interpersonal</i>	
	<i>B</i>	<i>Sig.</i>	<i>B</i>	<i>Sig.</i>	<i>B</i>	<i>Sig.</i>	<i>B</i>	<i>Sig.</i>
<i>Opportunity</i>								
Sex (female)	-.04	≤.001	-.04	≤.001	-.06	≤.001	-.07	≤.001
Marital status: married	.01	.265	≤.01	.934	.03	.012	.03	.009
Marital status: single	.02	.288	.01	.704	.02	.306	.03	.150
Age, linear	.18	.072	.16	.067	.44	≤.001	.43	≤.001
Age, non-linear	-.27	.019	-.15	.137	-.52	≤.001	-.41	≤.001
Community size	.07	≤.001	.01	.541	NA	NA	NA	NA
Interested in campaign	.01	.282	.04	≤.001	NA	NA	NA	NA
Contacted a politician	.01	.748	≤.01	.817	NA	NA	NA	NA
Employed	≤.01	.992	.03	.023	.01	.545	.02	.081
Works in private sector	.01	.191	≤.01	.916	NA	NA	NA	NA
Civic activism scale	-.01	.671	.03	.128	NA	NA	NA	NA
Media use scale	.04	.001	.07	≤.001	NA	NA	NA	NA
Trade union member	.03	.026	.01	.199	.03	.078	.04	.008
<i>Motivation</i>								
Interest in politics	.14	≤.001	.19	≤.001	NA	NA	NA	NA
Party attachment	-.01	.682	.02	.068	.07	≤.001	.10	≤.001
Trust in institutions scale	-.01	.429	≤.01	.817	NA	NA	NA	NA
Political efficacy	.08	.002	.02	.286	NA	NA	NA	NA
Left-wing orientation	.01	.324	.02	.092	.03	.018	.02	.179
Right-wing orientation	.05	≤.001	.04	.001	.08	≤.001	.08	≤.001
Electoral participation	.07	≤.001	.07	≤.001	NA	NA	NA	NA
Satisfied with democracy	.02	.043	≤.01	.648	.05	≤.001	.03	.002
Retrospective evaluation	-.11	≤.001	-.06	.008	NA	NA	NA	NA
Prospective evaluation	≤.01	.968	-.03	.143	NA	NA	NA	NA
Participatory activism	.09	.052	.03	.453	NA	NA	NA	NA
Consumer activism	-.06	.007	-.05	.024	NA	NA	NA	NA
Protesting activism	-.11	.018	-.01	.716	NA	NA	NA	NA
Satisfaction with govt.	.01	.451	≤.01	.858	NA	NA	NA	NA
Who is in power matters	.01	.637	≤.01	.811	-.10	≤.001	-.07	.003
Voting matters	≤.01	.964	.04	.001	.10	≤.001	.19	≤.001
Attend religious services	.01	.616	≤.01	.864	.01	.409	.01	.674

<i>OMR models and variables</i>	<i>M1</i>		<i>M2</i>		<i>M3</i>		<i>M4</i>	
	<i>Objective</i>		<i>Interpersonal</i>		<i>Objective</i>		<i>Interpersonal</i>	
	<i>B</i>	<i>Sig.</i>	<i>B</i>	<i>Sig.</i>	<i>B</i>	<i>Sig.</i>	<i>B</i>	<i>Sig.</i>
<i>Resources</i>								
HH standard of living	-.07	.002	-.15	≤.001	NA	NA	NA	NA
Higher professional	.07	.002	.04	.018	NA	NA	NA	NA
Lower professional	.03	.102	≤.01	.991	NA	NA	NA	NA
Self-employed	.02	.284	.04	.028	NA	NA	NA	NA
Semi/unskilled worker	-.03	.132	-.04	.018	NA	NA	NA	NA
Skilled manual worker	-.04	.082	-.05	.005	NA	NA	NA	NA
Intercept	.40	≤.001	.37	≤.001	.36	≤.001	.24	≤.001
<i>Model fit statistics</i>								
R	.61		.71		.49		.60	
R <sup>2</sup>	.37		.51		.24		.36	
Adjusted R <sup>2</sup>	.36		.50		.23		.35	
SEE	.19		.17		.21		.19	

Source: Czech National Election Study, CVVM, June 9–21, 2006, n=2002

Note the dependent variables are (1) level of political knowledge that has been which is estimated as an IRT model using the correct answers to political quiz questions in each post-election survey as part of the CSES research programme, and (2) interviewer evaluation of respondents' level of political knowledge during the survey interview. Models 1 and 2 (M1, M2) are larger models with more explanatory variables for factual and interpersonal political knowledge respectively. Models 3 and 4 (M3, M4) are the smaller 'standard' models, reported in Table 7.2, for factual and interpersonal political knowledge respectively. HH refers to 'household', and NA indicates 'not applicable'. Models based on an OLS estimator and all variables are scaled 0–1 to aid interpretation. Retrospective and prospective evaluations relate to the economy.

understanding (a) when education matters for having more factual knowledge of politics, (b) when it does not, and (c) when education has a mediating, moderating, or conditioning effect on level of knowledge (Achen 2005a: 28).<sup>38</sup>

In a similar vein, it was argued in Subsection 7.2.2 that the relationship between education and political knowledge is problematic because it is not clear how to interpret the education variable. Some scholars contend that there is no real association between education and knowledge

<sup>38</sup> Mediation occurs when the impact of X on Y through M shows the presence of direct and indirect causation. Moderation refers to the impact of M on the relationship between X and Y, where this relationship can become stronger or weaker due to the presence of M. Conditioning is the combination of both mediation and moderation (Hayes 2013: 7–15).

(Highton 2009). It could be that education and knowledge are different aspects of a common underlying socialisation process: more schooling has the effect of indoctrinating interest, information, and norms facilitating political awareness and participation. Here knowledge and education (and perhaps also interest and attitudes supportive of voter turnout) are endogenously related and should not be modelled in a causal way. In a similar vein, some researchers have suggested that a citizen's level of education is best viewed as a personal social history and position indicator (Tenn 2007; Kam and Palmer 2008; Berinsky and Lenz 2011).

Consequently, the final set of models re-examine the factual and interpersonal models presented in Table 7.2 without the education variable. Here the goal is to see if exclusion of ability (or intelligence as operationalised by education) as an explanation of the origins of factual and interpersonal knowledge matters as observed through (a) parameter estimates and (b) change in overall model fit. With regard to model fit (adjusted  $R^2$ ), the bottom part of Table 7.3 shows that the removal of the education indicator has a very limited impact (i.e. about 1%) in models M1 and M2. These models have a more extensive set of explanatory variables especially relative to resources and specifically household income and social class. With the removal of education as an explanatory variable, social (occupational) class now becomes more important, especially for interpersonal knowledge.

This impact makes sense because education, income and occupation are interrelated, although the bivariate inter-correlations among these socio-demographic indicators are not high ( $r \leq .30$ ). However, the substantive implication here is that it is a citizen's pre-existing social characteristics rather than their cognitive ability that determines their level of factual and interpersonal political knowledge (Tenn 2007; Kam and Palmer 2008).

This social characteristics effect appears to be greater for the interpersonal political knowledge model (M2), where almost all of the income and class variables are significant ( $p \leq .05$ ). This indicates that interviewers' evaluations of respondents' knowledge of public affairs is connected to the social position of the respondent. This fits with the Katz and Lazarsfeld's (1955) approach to personal influence over others by opinion leaders. In contrast, the determinants of factual knowledge, which is individual and cognitive in nature, should be much less correlated with social position characteristics – and this is indeed the case in Table 7.4.

Switching our attention now to models 3 and 4 on the right of Table 7.3 we can see that the total explained variance of the common model specifications, introduced earlier in Table 7.1 for all post-election surveys between 1996 and 2013, declines by a larger proportion than for models 1 and 2. Not having the resource variables of household income and class to 'compensate' for the loss of the education measure reduces model fit by between 14 (.42 minus .36 = .06;  $.06/.42 = 14\%$ ) and 20 (.30 minus .24 = .06;  $.06/.30 = 20\%$ ) percentage points. However, excluding

education increases the parameter sizes for many variables such as age (linear and non-linear), but has marginal effects on other factors such as the gender gap in knowledge (sex), party attachment, and left-right orientation. This means that the endogenous effect of education has a limited effect in masking the impact of other substantively important factors when income and class are not considered.

Three lessons may be drawn from the results presented in Tables 7.2 and 7.3. First, care must be taken when including and interpreting education variables in determinants of political knowledge models. Second, it would be better to use an intelligence measure to capture the impact of individual cognitive ability when explaining differences in knowledge. Third, the effect of education varies when used to explain contrasting forms of knowledge, i.e. factual versus interpersonal, and this suggests that education may not be a determinant of all types of political knowledge. In Chapter 6 it was found that with implicit knowledge, a pre- or non-cognitive form of political knowledge, education has a negative association.

## Conclusion

This chapter has shown that the Opportunities, Motivation, Ability and Resources (i.e. OMAR, MAO and OMR models) framework for exploring the determinants of factual and interpersonal political knowledge is a productive means of mapping the correlates of knowledge. The approach adopted may be criticised for its simplicity, as a large number of explanatory factors have been used to explain differences in levels of factual and interpersonal knowledge. This weakness reflects the fact that there is neither a commonly accepted definition nor a theory of political knowledge, and this situation has undermined the study of the origins of political awareness for decades.

Although political knowledge has always been a central concept in political science, the theories and models explaining the (1) origins, (2) nature, and (3) impact of political knowledge remain 'vague and partial' and measurement problems persist (Neuman 1986: 191). The opening quotations to this chapter underscore the two key themes of this part of the book. First, political knowledge has informational foundations relating to general knowledge of the world. Second, motivation is centrally important in seeking political information. The models reported in this chapter have dealt with these two themes, showing that knowledge can be legitimately seen as (a) purely informational and individualistic and (b) having a social component through personal influence over others.

Overall, motivation or a general interest in public affairs is the main determinant of factual and interpersonal political knowledge. Apart from using a proliferation of indicators for OMAR, the role of ability (or individual intelligence) in explaining differences in knowledge remains problematic. Operationalising ability as level of education rather

than using an intelligence scale may be questioned. Caplan and Miller's (2010) examination of expert knowledge among citizens (i.e. non-economists sharing the same beliefs as a professional economist) found that when a measure of intelligence was included in models of the determinants of expert economic knowledge the impact of education declined. This result was interpreted as showing that 'to a fair degree education is proxy for intelligence'.<sup>39</sup> Consequently, the issue of using education in models of political and other forms of knowledge remains an open question until it becomes possible to test for intelligence effects in future surveys that include appropriate items, such as the American General Social Survey (GSS) has done intermittently since the 1980s.

Shifting attention away from methodological concerns, the key substantive finding from Caplan and Miller's (2010: 645) research is that knowledge has what economists call a 'positive externality' or 'civic return'. Citizens with higher levels of knowledge make more sensible economic policy decisions using the consensus view among economists as the criterion of a good policy choice. More will be said on this topic in Chapter 13, where consensus in expert knowledge is examined. This means that societies' investment in education produces a collective good: better democratic decision-making during popular elections.

In the next chapter, the examination of the origins of political knowledge will be extended to exploring what helps explain differences in having political knowledge (being informed), having no knowledge (uninformed), and possessing false knowledge (misinformed). Looking at political knowledge in this way is important for two reasons. First, it aids determining whether political knowledge can be viewed as a continuum that ranges from being 'informed' to 'uninformed' to 'misinformed': a theme examined in Chapters 1 and 2. Second, not having political knowledge implies being either uninformed or misinformed. Kuklinski et al. (2000: 792) have argued that being misinformed is much more politically consequential than being uninformed. This is because the latter leads to biased policy results based on false confidence of being knowledgeable.

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39 Intelligence in the General Social Survey (GSS), fielded in the United States, is measured since 1974 using WORDSUM: a battery of ten word-recognition items from the Wechsler Adult Intelligence Scale (IQ). The correlation between WORDSUM and IQ is .71, a number derived from Wolfle (1980). This indicates that Caplan and Miller's (2010: 639–640) measure of intelligence is strong but not perfect. It could be argued that the WORDSUM scale score reflects individual knowledge of vocabulary rather than intelligence. For this reason, it is not surprising that knowledge of vocabulary and economics are strongly correlated, as they both reflect general knowledge.

# Chapter 8: A Comparative Analysis of the Determinants of Being Informed, Uninformed and Misinformed

The argument takes its start from the frequent ambiguity of survey responses. Like Delphic utterances, these always mean something but not always what we think they mean.

Ian Budge (1971: 389)

Vacillation, indifference, or weakly held opinions have long met with utmost contempt, while approval and admiration have been bestowed on firmness, fullness, and articulation of opinion.

Albert O. Hirschman (1989: 76)

## Introduction

Within all survey-based measurements of political knowledge there are at least three ways to code the answers of respondents. The answer key may be set up to measure (a) correct, (b) incorrect, and (c) don't know, refused or no reply responses. These scores for each question in the battery of political knowledge items may then be used to construct separate indicators of being (1) informed on the basis of the number of correct answers, (2) uninformed estimated from a count of don't know or no reply, and (3) misinformed by providing an incorrect answer. One might even envisage these three codings as points on a latent dimension capturing the level of knowledge ranging from misinformed to uninformed to informed, where each person lies somewhere on this dimension of awareness.

This approach to classifying the answers to political knowledge quizzes in national polls depends critically on understanding how respondents answer survey questions in general and political knowledge in particular. Methodologically, the propensity to give answers to questions during interviews, even if the respondent has not thought about the topic being examined, falls under the rubric of 'social desirability' effects. Generally, social desirability effects are considered a nuisance or a source of measurement error. This is especially true with the measurement of political knowledge, where some respondents feel compelled to (1) guess the answers or (2) say 'don't know' because they feel uncertain about their knowledge and because they are reluctant to give a definite answer below some personal threshold of sureness, respectively.

The pervasiveness of this form of social desirability effects in survey interviews suggests that survey response styles featuring (a) not admitting 'don't know' when a person genuinely does not know the answer

and (b) using a guess in these situations. It could be argued that the holding of opinions is a core feature of a citizen's identity, where the formulating and expression of such views in public constitutes one element of an individual's well-being. The quotation above from noted American economist Albert O. Hirschman highlights a key point: the holding and expression of opinions represents a central element of most narratives on democracy and no self-respecting citizen should be caught in a survey interview about politics with nothing to say.

The goal of this chapter is to bridge the themes of Chapter 7, which explored the individual-level determinants of factual political knowledge, and Chapter 4, which studied, at the national (aggregate) level, the survey response process for political knowledge questions. This chapter is important because it will demonstrate that the broad division of respondents into knowledgeable, or not, is a reasonable simplification of the survey response data. A comparative analysis will show that being misinformed (incorrect answers) and uninformed (guessing and don't know responses) is based on lack of motivation, ability, and access to political information. In contrast, the origins of being informed are based on being motivated (i.e. interested in politics and being dissatisfied with public policy), having higher levels of education and cognitive ability, and being male.

The argument and empirical evidence presented in this chapter starts in the first section with an outline of how the MAO model helps to organise an explanation of being uninformed, misinformed, and guessing answers to knowledge items. Sections 2, 3 and 4 examine the determinants of being misinformed, and uninformed. The penultimate section outlines the modelling results. The chapter ends with some comments linking the determinants of factual political knowledge outlined in Chapters 5 and 7 with similar MAO models of being uninformed and misinformed examined in this chapter.

## **8.1 Explaining Informed, Misinformed and Uninformed Responses**

Within earlier chapters, i.e. Chapters 2, 3, 5 and 7, the focus was on examining *what* citizens know about politics and *why* some individuals are more informed than others. In this chapter the objective is different. Here the goal is to examine, within the Motivation-Ability-Opportunity (MAO) modelling framework, the determinants of being informed, misinformed, and uninformed. Consequently, within this chapter there is a return to theoretical and modelling themes discussed earlier in Chapters 1 and 2. Methodological studies of how respondents answer political knowledge questions have identified a number of key themes, which is the topic to which we turn next.

### 8.1.1 How do respondents answer factual knowledge questions?

Over the last three decades there has been growing recognition that the way survey respondents' answer factual political knowledge questions is not the same as looking up information in an encyclopedia. In the real world of polling interviews survey responses are not always generated by a cognitive process where information is retrieved from memory. The answers are generated on the spot. As a result, the 'considerations' used to answer a survey question are often influenced by (a) the availability of relevant facts that have been learned or encountered recently, (b) cues in the environment, such as information contained in previous questions in the questionnaire that are used to deduce an answer, and (c) making inferences from other related facts that are readily available (note Strube 1987: 90–92; Zaller 1992: 6–52; Tourangeau, Rips and Rasinski 2000: 10–11, 136–164).

Within this chapter it will be argued that the process of generating answers to factual political questions in mass surveys may be profitably explained in terms of a respondent's motivation and ability to acquire political information in a similar manner to that described by Converse (1976) and Nadeau and Niemi (1995: 324–328). As noted above, one popular view of how an informed (or high knowledge) respondent answers a factual knowledge question is that the interviewee immediately retrieves the answer from memory just like searching for an answer in an encyclopedia. In contrast, less knowledgeable respondents cannot follow the same procedure. This is because the information is not available for giving a spontaneous answer. Therefore, 'know-nothings' must follow a different survey response strategy. One possibility is that less informed respondents who have partial or no knowledge (uninformed) may decide to guess rather than reply 'don't know' because they do not wish to appear stupid in front of the interviewer (Converse 1964b: 20–21).

Figure 8.1 presents a 'decision tree' of the options open to respondents when deciding whether to give a correct, incorrect, or 'don't know' response to a political knowledge question. In Classical Test Theory (CTT) and education testing a response strategy of guessing is considered to be a form of measurement error that interferes with making accurate evaluations of respondents' abilities. The extent and persistence of guessing in all forms of ability testing suggests that this strategy for answering all kinds of questions is important and should be understood rather than consigned to the error term in statistical models. Currently, one of the most influential explanations of how respondents answer survey questions is the Belief Sampling Model, which assumes that survey responses are most often generated spontaneously during an interview: respondents do not provide information like encyclopedias do (Tourangeau, Rips and Rasinski 2000: 178–196).

A core feature of the Belief Sampling Model is that answers to survey questions often exhibit *observational equivalence*, meaning that an incorrect answer, for example, often has many origins: (1) unintentional

misunderstanding, (2) 'educated guessing' based on partial knowledge, or (3) 'blind guessing' originating in being uninformed. Matters become more complicated because with non-responses, or more specifically answers that have an ambiguous substantive meaning (such as 'don't know', no answer, refused to answer), additional sets of survey response strategies or motivations come into play, as indicated in the bottom part of Figure 8.1. In short, 'correct' and 'incorrect' answers are really a mix of different responses with contrasting origins that are recorded in a survey interview as evidence of 'knowledge' or 'ignorance'. In this situation there really is measurement error.

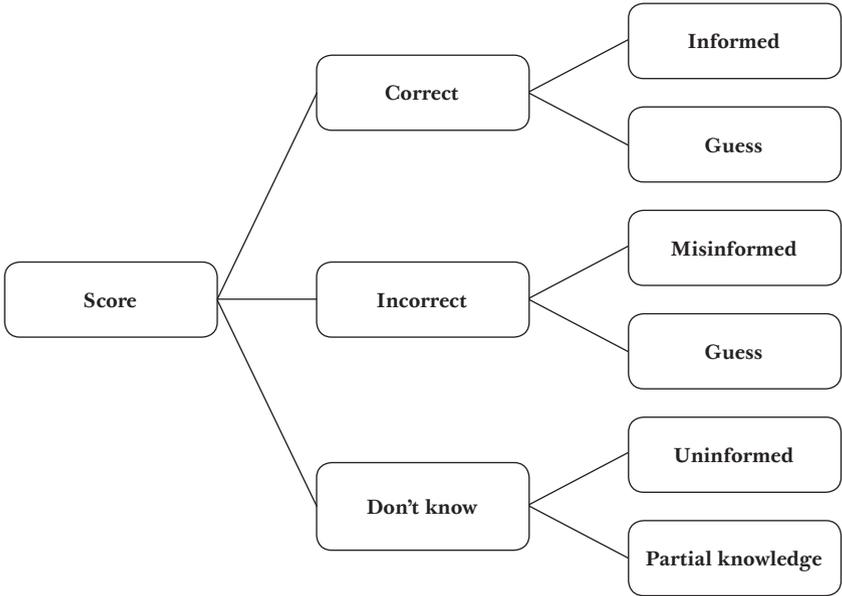
If we now focus for a moment on uninformed respondents who decide to guess the answer to a political knowledge question, it is likely that the source material for guessing (as the Belief Sampling Model argues) are miscellaneous types of information that are readily accessible, such as considerations, feelings, beliefs, contextual cues, etc., that come to mind when a factual question is asked. This distribution of material is 'sampled', and the information retrieved is used heuristically to formulate, through a quick inferential process, an answer to the question posed (note Zaller 1992: 4–52; Chong 1993: 871).

This 'top-of-the-head' sampling process, which is used to construct spontaneous political opinions, or pseudo opinions, during polling interviews, can be considered analogous to the guessing that occurs with political knowledge questions when the respondent is not certain of the answer (Luskin and Bullock 2011: 549, fn.3). With uncertainty about what is the correct answer to a political knowledge question, respondents may quickly resort to various types of guessing, where (1) a partially informed interviewee decides to reply with 'educated guesses' and (2) the completely ignorant interviewee falls back on 'blind guessing'. The main idea here is that the Belief Sampling Model for answering attitudinal questions may also be usefully applied to study the determinants of how individuals respond to factual political knowledge items in mass surveys. This analogical reasoning is valid if one assumes that the spontaneous construction of an attitudinal response in a survey interview is essentially the same as guessing the answer to a factual knowledge question.

### *8.1.2 MAO and the Belief Sampling Model*

Within the logic of the Belief Sampling Model of survey response, it is expected that motivated respondents will be more likely to give a definite substantive answer, i.e. correct or incorrect responses, and less likely to admit being uninformed and reply 'don't know'. Being motivated implies that individuals are interested in politics and news and are therefore more likely to be sufficiently informed to answer the questions posed in a political opinion poll (Nadeau and Niemi 1995). Here the suggestion is that motivated respondents are knowledgeable and will

**Figure 8.1: An overview of potential sources of answers to political knowledge questions**



Source: author

Note this figure illustrates the survey response process where the mechanisms leading to correct (informed), incorrect (misinformed), and don't know (uninformed) answers are generated by two mechanisms each. Social desirability effects lead to guessing both correct and incorrect answers resulting in measurement error. The 'don't know' response is similar in that the genuinely uninformed are mixed with 'shy', partially knowledgeable, respondents who are unwilling to guess an answer. In sum, the overall knowledge score has measurement error deriving from a variety of sources.

give the correct answer. A similar, but opposite, logic obtains for being misinformed and uninformed, as shown in Figure 8.2. Here one can see that the expected positive relationships for being informed are all negative for being misinformed and uninformed.

Rather than go through in detail why each of the MAO variables is expected to have a specific positive or negative relationship with being informed, misinformed, or uninformed, it is simpler to say that the determinants of being misinformed and uninformed will be opposite to those expected for being informed. This simple contrast fits with the Item Response Theory (IRT) models described in Chapter 3, where it was reported that attempts to create more complex (polytomous) knowledge scales failed as a simple dichotomous correct versus non-correct coding worked best.

In the following three sections there will be a more detailed discussion of what is known about the determinants of giving misinformed and uninformed (guessing and replying ‘don’t know’) answers to political knowledge questions. Discussion of the factors shaping informed or correct answers has been given in earlier chapters and will not be repeated here.

## **8.2 Determinants of Being Misinformed**

Survey research consistently shows that most citizens can recall little correct factual information about politics, and this has an important impact on their expressed political preferences (Delli Carpini and Keeter 1996; Althaus 1998, 2003: 59, 167–193; Kuklinski et al. 2000; Gilens 2001). One influential line of research, introduced earlier in the introductory chapter and in Chapter 1, has shown that in some circumstances citizens may use information shortcuts, or heuristics, to arrive at correct choices in the absence of knowledge by using other information derived from the context in which the decisions are made (e.g. Carmines and Kuklinski 1990; Popkin 1991; Sniderman et al. 1991; Lupia and McCubbins 1998).

The use of heuristics by citizens assumes that they are uninformed (rather than misinformed), and that they know and recognise this fact. Many surveys show some respondents select an incorrect answer either through mistaken beliefs or guessing, and such misinformation is frequently motivated by partisan preferences. In short, the impact of heuristics, which is limited in any case to long-term informational cues such as partisanship rather than short-term campaign-specific messages, is restricted to self-aware uninformed citizens (Kuklinski et al. 2000: 79; Kuklinski and Quirk 2000: 182). Additionally, being misinformed can be a persistent state of affairs, where attempts to correct misperceptions may have little impact and may have the unintended effect of strengthening the original misinformation (Nyhan and Reifler 2010).

Consequently, citizens who genuinely think that their misinformed beliefs are factually correct are an important segment of the population. This is because (1) their views may lead to collectively bad policies, and (2) their misinformed assessments may persist regardless of countervailing factual evidence. The source of being misinformed may be error, biased political learning, or the result of misinformation perpetuated by politicians (note Shapiro and Bloch-Elkon 2008). One implication from research on misinformation effects is that, although there can be expert agreement on what are correct facts, the interpretation and use of such facts in the public sphere is often contested (Gaines et al. 2007).

## **8.3 Determinants for Guessing Answers**

Within Classical Test Theory (CTT) the probability that a respondent answers a political knowledge question correctly is composed of two elements: (a) the probability the person actually knows the answer, which

**Figure 8.2: Summary of MAO model predictions for the determinants of informed, misinformed and uninformed responses**

<i>MAO model and explanatory variables</i>	<i>Informed:</i>	<i>Mis-informed:</i>	<i>Un-informed:</i>	<i>Un-informed:</i>	
	<i>Correct</i>	<i>Incorrect</i>	<i>Guess</i>	<i>DK</i>	<i>CPR</i>
<i>Motivation:</i>					
Interest in politics	+☑	-☑	-☑	-☑	4/4
Dissatisfaction with policy making	+☑	-☒	-☑	-☑	3/4
Dogmatism	-☑	+☑	+☑	+☑	4/4
Interpersonal trust: attitudes	+☒	-☑	-☑	-☑	3/4
Interpersonal trust: structure	-☑	+☑	+☑	+☑	4/4
Trust in national institutions	+☒	-☑	-☑	-☑	3/4
Religious belief and practice	-☒	+☑	+☒	+☒	1/4
<i>Ability:</i>					
Education	+☑	-☑	-☑	-☑	4/4
<i>Opportunity:</i>					
Age	+☑	-☑	-☑	-☑	4/4
Sex (female=1)	-☑	+☑	+☑	+☑	4/4
Worker	+☑	-☑	-☑	-☒	3/4
Student	-☑	+☑	+☑	+☑	4/4
Member of a political group	+☒	-☒	-☒	-☒	0/4
Correct Prediction Rate (CPR)	9/13	11/13	11/13	10/13	

Source: author

Note the informed, or correct, model indicates the number of correct answers that have been modelled as an IRT (2PL) model. In contrast, the misinformed or incorrect model refers to the number of wrong answers. The uninformed guessing model refers to the difference between the actual knowledge score recorded (plus guessing) and an adjusted knowledge score (purged of guessing), i.e. guessing only. Finally, the uninformed ‘don’t know’ (DK) model refers to a logit estimation of those respondents who refused to answer all of the 16 knowledge questions. Statistically significant ( $p \leq .05$ ) parameters are indicated by (+\*) and negative (-\*) symbols. Correct predictions are indicated by ☑ and incorrect ones by ☒.

is what we would like to measure, and (b) the probability that the respondent guesses the right answer to a question they really do not know the answer to. The latter constitutes a form of measurement error originating in a respondent's survey response style, where they are motivated to guess answers when they should admit not knowing the answer and reply 'I don't know' (note Sheriffs and Boomer 1954; Slatker 1968; Fleming 1988). This methodological topic has been debated within the field of education testing for close to a century with a large research literature proposing a wide range of solutions to reduce or correct for guessing (e.g. McCall 1920; Cronbach 1942, 1946; Cureton 1966; Diamond and Evans 1973; Frary 1988).

In general, two options are possible: (1) instruct respondents when to answer 'don't know', as Jeffrey Mondak et al. advise, and hope interviewees follow the interview protocol, or (2) adjust the original or raw knowledge scores in a number of ways to arrive at a more realistic absolute estimate of political knowledge (Mondak and Davis 2001; Krosnick et al. 2008; Luskin and Bullock 2004). In this chapter, the focus will be on the second option. This is because the data used here are from the Images of the World in the Year 2000 survey employed in Chapters 4 and 5. The questionnaire from this international survey from the late 1960s did not have explicit instructions kindly asking the respondent not to guess, but simply offered them the option to reply 'don't know'.

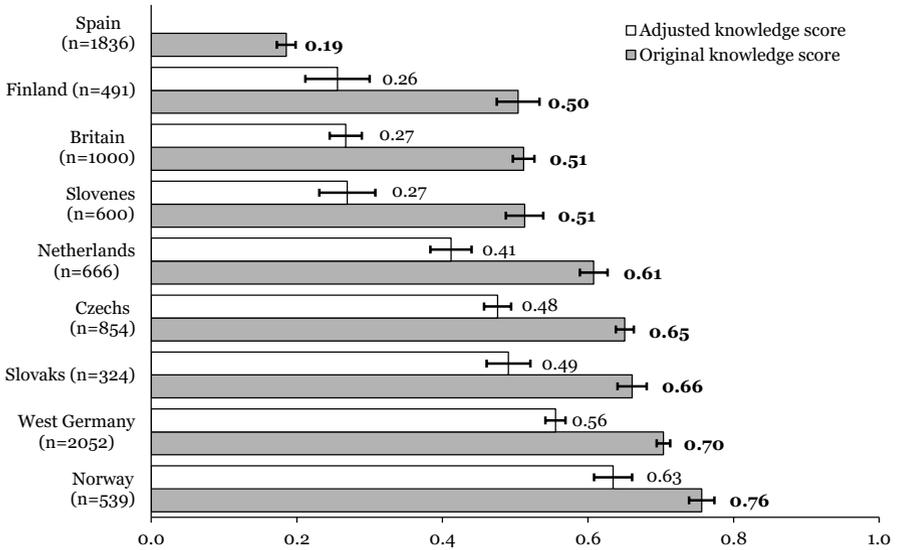
### 8.3.1 Comparison of original and adjusted knowledge scores

One common method for examining the impact of guessing on political knowledge data at the aggregate level is to compare raw knowledge scores with a score adjusted for guessing. The raw or original knowledge score is the proportion of correct answers out of the total number of questions ( $n=16$ ). Earlier in Section 4.1.3 of Chapter 4 it was shown that the *Adjusted Knowledge Score* ( $K$ ) for guessing is given by the following formula:

$$K = \frac{R - 1/L}{1 - 1/L} \quad \text{Eq.1}$$

Here  $R$  refers to the original knowledge score and  $L$  is the number of response options in the political knowledge question, which in the Images of the World in the Year 2000 survey was four: NATO, Warsaw Treaty Organisation, Neither, and Don't know / No answer. This particular approach to adjusting for guessing is a standard one (note Lord 1975; Frary 1988; Weller 2007; Bernard 2011: 372–374). It was noted in Chapter 4 that there is no perfect method for correcting knowledge scores for guessing; however, this adjustment (Eq.1) has the merit of being a simple and transparent means of exploring the impact of guessing on national knowledge scores, as shown in Figure 8.3.

**Figure 8.3: A comparison of mean differences in original knowledge test scores and knowledge adjusted for guessing**



Source: Images of the World in the Year 2000 survey, 1967–1970, combined data set n=3,789

Note that this figure shows the differences between the mean knowledge score for each country and the adjusted score where there has been an adjustment for guessing. The bars have been sorted on the basis of original knowledge score. This figure reveals that for some countries the absolute level of knowledge almost halves when adjustment is made for guessing. An adjusted knowledge score was not estimated for Spain because of its high level of ‘don’t know’ / no answer response rate, i.e. 64%.

Here we see that the relative ordering of countries in terms of knowledge remains the same for both the original and adjusted mean knowledge scores for all countries examined. Figure 8.3 reveals two main things. First, the difference in the original and adjusted knowledge scores is largest for those with lower levels of mean knowledge. Second, the adjusted scores for some countries, such as Finland, Britain, and Slovenia, are large suggesting that the original (raw) knowledge score is almost twice as large as it should be due to guessing. For the two most knowledgeable countries, Norway and West Germany, the adjustment for guessing is much lower. Overall, Figure 8.3 shows that guessing inflates the absolute political knowledge score in all countries, but this inflation is higher in some countries.

## 8.4 Determinants of Being Uninformed: Don't Know Responses

Within mass surveys there are a plethora of ways in which the 'don't know' (DK) option is both implemented in questionnaires (explicitly offered to respondents, or not) and interpreted by researchers. Specifically, a DK may be viewed (a) as evidence of being uninformed or (b) as a methodological artefact reflecting how respondents decided to answer the quiz question. For these two reasons, 'don't know' responses have been interpreted in at least four different ways (Stoop and Harrison 2012: 270).

- (a) Respondents lack sufficient factual knowledge to give an answer, and the DK data are viewed as evidence of being *uninformed*.
- (b) Respondents refuse to answer the question asked due to feelings of ambivalence, ambiguity, satisficing, intimidation and self-protection, and the DK data are classified as a form of *measurement error* stemming from psychological processes, etc.
- (c) Respondents in the absence of the DK option are forced to guess the answers to questions if they lack sufficient knowledge, leading once again to *measurement error* arising from social desirability effects where respondents want to portray themselves to the interviewer as being knowledgeable.
- (d) There is non-response because the respondent is unable or unwilling to provide the required information by giving a substantive answer, and the DK responses are treated as *missing data*.

Most often researchers view DK responses as evidence of being uninformed, and these are combined with incorrect (misinformed) answers to dichotomise the knowledge data in terms of correct versus non-correct answers. The problem here is that the uninformed and the misinformed are seen to be qualitatively different types of respondents (Kuklinski et al. 2001). If DKs are coded as missing data then either this subset of respondents are excluded from further analysis, running the risk of selection bias, or, alternatively, the DKs are randomly recoded as having correct / incorrect answers – on the assumption that this is an effective strategy for dealing with missing data (Mondak and Anderson 2004; Lizotte and Sidman 2009). Deciding between these two choices raises an obvious question: what is the best way to interpret and deal with DK answers to political knowledge items?

### 8.4.1 Interpreting 'don't know' responses

It was noted in Section 2.4.4 of Chapter 2 that analysts of political knowledge have struggled to find a definitive means of classifying 'don't know' answers. This is because some respondents, such as women, have a higher likelihood of giving this response (and not guessing). In contrast, other respondents, such as the well-educated, are much less inclined to admit 'I do not know', so they try to guess the answer (note

Ben-Shakhar and Sinai 1991; Jamieson and Kenski 2000; Mondak and Anderson 2004; Nadeau and Niemi 1995).

Respondents' perceptions of how knowledge questions are coded may be important. This is because risk-averse individuals may prefer to answer 'don't know', rather than guess, if they feel there is a 'penalty' for incorrect answers (note Kahneman and Tversky 1979). This tendency to answer 'don't know' has been found in some studies to be correlated, as alluded to earlier, with gender and minority social status. In short, there is empirical evidence of a systematic preference for specific subgroups, such as women, to reply 'don't know' rather than guess answers (Mondak and Anderson 2004; Lizotte and Sidman 2009: 131; cf. Luskin and Bullock 2011).

The main point here is that how respondents answer a political knowledge question depends on whether a strategic or psychological mechanism best explains how the knowledge question is interpreted and answered by the respondent. Being strategic involves wanting to maximise the test score. Psychological motives are more diverse and relate to such things as presentation of the self, which is reflected in social desirability effects and risk aversion, etc. The presence of a strategic or psychological mechanism has a big impact on how the knowledge scores are recorded (Badescu and Bar-Hillel 1993: 284). Consequently, systematic variations in response style which were explored in the last chapter have an impact on the level of knowledge measured. As noted above, there have been four proposals to deal with, and hence interpret, don't know answers to political knowledge questions.

*(a) Discouraging 'don't know' responses*

The first approach advocated by some scholars, such as Jeffrey Mondak, is to actively encourage reluctant respondents, such as women and minorities, to guess the answers to questions they are unsure of (note Mondak 1999, 2001; Mondak and Davis 2001; Mondak and Anderson 2003, 2004; Mondak and Canache 2004; Miller and Orr 2008). The 'don't know' (DK) response option is initially not offered to respondents. Here DK answers most likely refer to an unwillingness to participate in the political quiz and should be interpreted as such. This implies that some respondents who would normally select 'don't know' (if the option is available) have partial knowledge and so have a better than odds chance of selecting the correct answer (Angoff and Shrader 1984; cf. Albanese 1986). Consequently, within education testing a 'don't know' response option is not explicitly offered in tests. More generally, a DK response option is often not initially offered in survey interviews because, as Krotnick and Presser (2010: 284–285) argue, it does not automatically improve data quality.

DKs often result not from genuine lack of opinions but rather from ambivalence, question ambiguity, satisficing, intimidation, and self-protection. In each of these cases, there is something meaningful to be learned

from pressing respondents to report their opinions, but DK response options discourage people from doing so. As a result, data quality does not improve when such options are explicitly included in questions.

*(b) Encouraging 'don't know' responses*

The second perspective advocates for an 'honest strategy', where survey interviewees are instructed to respond 'don't know' if they are genuinely not sure of the answer (Sturgis, Allum and Smith 2008; Luskin and Bullock 2011). Here experimental studies reveal that the discouragement of 'don't know' responses does not have the impact predicted by Mondak and others. Don't know answers show that the respondent is uninformed. Consequently, encouraging 'don't know' responses was the approach adopted in the four Czech National Election Studies fielded between 2006 and 2013 in order to reduce the propensity for guessing.

*(c) Facilitating 'random' guessing*

The third view of 'don't know' responses is to discourage them and force interviewees to use whatever knowledge they have to guess the answer. The key idea here is that guessing should in this situation be randomly distributed across all respondents. As noted earlier, it is assumed that some respondents who reply DK have partial knowledge and are not uninformed. By encouraging such a partially knowledgeable respondent to guess, they have a higher than odds chance of answering correctly: something that is considered to be a better indication of their true level of knowledge. This perspective has been criticised for making two assumptions: (1) some respondents are predisposed to guessing rather than admit no knowledge and say 'I don't know', and (2) some other respondents do have partial knowledge but will answer 'don't know' even though they have a greater than odds chance of guessing the correct answer. If there is no subgroup with partial knowledge, then randomly allocating 'don't know' answers using a typical question format that explicitly offers DK responses provides a reasonable solution.

*(d) Treating 'don't knows' as missing data*

In fact, this latter strategy is employed in the final perspective that considers 'don't know' answers to political knowledge questions to be missing data. Here the 'missing data' are randomly assigned correct and incorrect answers on the assumption that these responses are Missing Completely at Random (MCAR). This assumption may be questioned, because much survey research on political knowledge indicates that the missing DK responses are not MCAR, but are better considered to be Not Missing at Random (NMAR). Empirically, respondents who give 'don't know' answers are much more likely to be uninformed. Therefore, a multiple imputation strategy using the MAO model (i.e. Motivation: interest in politics; Ability: education; and Opportunity: sex) offers a better approach to modelling the 'missing' DK responses.

A systematic comparison of different data imputation strategies with political knowledge data from a series of Czech post-election studies (2006, 2010 and 2013) is given in Petrúšek (2015: 113–131). Multiple imputation using key MAO determinants of political knowledge, i.e. political interest (motivation), education (ability) and sex (female, opportunity), proved to be the most effective missing data method tested. The statistical simulation results revealed that by accounting for the uncertainty associated with missing data imputation, multiple imputation led to a correct coverage rate of the population parameters in terms of the 95% confidence intervals. Overall, this unique study found that the Multiple Imputation by Chained Equations (MICE) algorithm (implemented by Stefan Van Buren (2014) in the R statistical programming environment) leads to unbiased parameter estimates and an accurate coverage rate under both the MCAR and the MAR mechanisms.

In the Images of the World in the Year 2000 survey (1967–1970), the surviving documentation indicates that the respondents were explicitly offered the option of replying ‘don’t know’. Therefore, this option would have been selected by a certain number of respondents who felt uncomfortable in guessing the answers to the battery of 16 political knowledge questions.

## 8.5 Discussion of the Modelling Results

In Chapter 4 it was shown that national cultural differences appear to be correlated with being misinformed and uninformed, where respondents in some countries were much more likely to guess an answer rather than say ‘don’t know’ (DK) and vice versa. With only 8 national samples it is not possible to use a multilevel modelling strategy to explore the impact of national culture on the individual-level propensity to give DK or guessing answers because there are an insufficient number of countries. For example, Stegmuller (2013: 758) on this point concludes as follows:

Simple linear or probit models containing only a random intercept are the best-case scenario. Here [Maximum Likelihood] ML estimates and confidence interval coverage of estimated macro effects are only biased to a limited extent, as long as more than 15 or 20 countries are available. But even in this optimal setting, using fewer countries quickly leads to confidence intervals that are far from their declared level.

Consequently, it makes sense with the Images of the World in the Year 2000 survey to work (1) with all the data to estimate large ‘generalised’ models and (2) with country-specific models for more detailed analyses. Differences in context are informally explored in terms of comparing parameter values from the country models.

Within this chapter the study of being misinformed and uninformed is examined in terms of the determinants of being informed using the Motivation-Ability-Opportunity (MAO) model. This comparative approach is

**Table 8.1: A comparison of MAO models of being informed, misinformed and uninformed for all countries**

<i>Models and variables</i>	<i>Informed:</i>		<i>Misinformed:</i>		<i>Uninformed:</i>			
	<i>Correct</i>		<i>Incorrect</i>		<i>Guessing</i>		<i>Don't know</i>	
	<i>B</i>	<i>Sig</i>	<i>B</i>	<i>Sig</i>	<i>B</i>	<i>Sig</i>	<i>B</i>	<i>Sig</i>
<i>Motivation</i>								
Interest in politics	.09	<.001	-.09	<.001	-.06	<.001	-.89	.001
Policy dissatisfaction	.05	<.001	.02	.317	-.03	.008	-1.43	<.001
Dogmatism scale	-.11	<.001	.14	<.001	.10	<.001	1.67	<.001
Interpersonal trust – attitudinal	-.02	.067	-.04	.001	-.03	<.001	-.58	.015
Interpersonal trust – structural	-.05	<.001	.06	<.001	.05	<.001	1.36	.001
Trust in national institutions	-.02	.373	-.10	<.001	-.07	<.001	-1.19	.002
Religious belief & practice	-.01	.128	.02	.005	.01	.188	-.20	.245
<i>Ability</i>								
Education level	.06	<.001	-.05	.001	-.09	<.001	-2.98	<.001
<i>Opportunities</i>								
Age	.07	<.001	-.09	<.001	-.05	<.001	-.56	.020
Sex (female=1)	-.10	<.001	.10	<.001	.07	<.001	1.20	<.001
Worker	.02	.006	-.04	<.001	-.03	<.001	-.29	.220
Student	-.04	<.001	.03	<.001	.02	<.001	.53	<.001
Member of political group	.04	<.001	-.04	<.001	-.03	<.001	-.81	.002
Intercept	.65	<.001	.35	<.001	.24	<.001	-1.66	<.001
<i>Model fit statistics</i>								
N	3789		3467		3787		3789	
F / Wald, p<.001	69		57		83		301	
R <sup>2</sup>	.18		.16		.21		.18	
AIC	3076		1740		5415		1778	
BIC	2988		1654		5328		1866	
Log-likelihood	1552		884		2722		875	
LR(13), p<.001	764		611		896		391	

Source: Images of the World in the Year 2000 survey, 1967–1970, combined dataset  
 Note all are OLS regression model estimates except for the ‘don’t know’ model, which is a logit model of those who replied ‘DK’ to all 16 of the knowledge questions. Estimates based on unweighted data; however, additional models with weighted data

ensuring all national respondents have the same weight yield the same substantive results. All variables have been rescaled 0–1 to facilitate comparison of model estimates. The dependent variable in the informed / correct model is an IRT model of correct answers. The incorrect model is a summated rating scale. The guessing dependent variable is the difference between correct answers plus guessing minus correct answers purged of guessing. The total number of cases for the misinformed model is less because 322 respondents who answered DK to all knowledge items are excluded on the grounds that they refused to participate in this part of the survey.

useful because it facilitates testing the ‘big’ idea that being misinformed and uninformed are simply the opposite of being informed. This research is important because it helps justify the approach adopted in this book, and elsewhere, of classifying political knowledge data as being either ‘correct’ or ‘non-correct’, where members of the latter group, although heterogeneous, are sufficiently similar to be treated as a single group.

#### *8.5.1 Comparison of informed, misinformed and uninformed answers*

From the outset it is important to note that all of the dependent variables, i.e. correct, incorrect, guessing and don’t know answers, have a normal or single peaked distribution. Single peakedness indicates that there is (1) a central tendency for being knowledgeable, being misinformed (or possessing ‘false knowledge’), and being uninformed, and (2) most of the informed, misinformed and uninformed responses are concentrated around a mean (median or modal) value. The main idea here is that political knowledge is essentially randomly distributed around a mean (median or modal) value, as is being misinformed and uninformed.

The results of a set of individual-level common MAO models for correct, incorrect, guessing and don’t know answers across eight national samples in the Images of the World in the Year 2000 data set are presented in Table 8.1. These results estimated with an Ordinary Least Squares (OLS) estimator largely conform to the expectations outlined earlier in Figure 8.3, where the profile of being misinformed and uninformed is generally opposite to that for being informed. Some of the key findings from Table 8.1 reveal, as predicted, that misinformed and uninformed citizens have four characteristics: (a) have lower than average interest in politics, (b) are more dogmatic than average, (c) have lower levels of education, and (d) tend to be over-represented among women and students.

The estimates for ‘don’t know’ responses are different in the sense that the model examines those who refused to answer all 16 knowledge items. This is because this variable has a skewed (close to zero) distribution that makes use of an Ordinary Least Squares (OLS) estimator employed in the other models problematic. There are relatively few such respondents in each country, and so a combined eight-country model is used to facilitate estimating this particular (DK) model.

Alternative model specifications were also estimated, i.e. (1) quantile regression models of deviations from the 25%, 50% (median) and 75% percentiles, which provide more robust estimates than OLS, and (2) Negative Binomial regression models, which treat the DK responses as count data. OLS, quantile regression and Negative Binomial models all yield similar substantive results. Respondents who selected a 'don't know' response with high frequency were quite dissimilar to their fellow informed respondents. The 'purest' don't know response model, being the logit one, is reported on the far right of Table 8.1.

### *8.5.2 Determinants of being misinformed*

The determinants of being misinformed and giving incorrect answers to the battery of 16 political knowledge questions about membership of NATO, the Warsaw Treaty Organisation, or neither of these international military pacts, is shown in Table 8.2. There are some general effects evident in most of the samples examined across the Cold War divide. This table shows that those who were interested in politics had higher levels of education, and those who were older had less than the average number of 6 incorrect answers. Conversely, those with a dogmatic style of thinking and women had higher than average levels of wrong answers.

Table 8.2 shows most other effects, such as policy dissatisfaction, interpersonal trust (attitudinal and structural), and being a student, were only important for subsets of countries. This may reflect the impact of national context. Care is required in interpreting the results of Table 8.2 because not all of the 'standard' explanatory factors are available for all national samples examined. And it is possible the exclusion of variables such as (a) education in Britain or (b) age and sex in the Netherlands could have an impact on the parameter estimations reported.

Overall, these results show two main things. First, being misinformed is the reverse of being informed, where lack of interest in politics, lower education, and youth are the primary determinants of having factually incorrect false knowledge. Of course, some of this false knowledge, or being misinformed, may be a product of guessing – a topic to which we now turn.

### *8.5.3 Determinants of guessing*

Unlike other forms of survey response, guessing often cannot be directly detected unless special questions (that have no factual answer) are included for this task. Consequently, the most common method is to adjust correct answers by taking into account incorrect answers and don't know responses as outlined earlier in Equation 1 in Section 8.3 and Section 4.1 of Chapter 4. By subtracting an adjusted correct score from the original (raw) correct score one gets an admittedly rough measure of guessing at the individual level. Caution is required here because this procedure can

**Table 8.2: A comparison of MAO models of being misinformed by country**

<i>Models and variables</i>	<i>ALL</i>	<i>CSSR</i>	<i>CSR</i>	<i>SSR</i>	<i>FRG</i>	<i>GB</i>	<i>NOR</i>	<i>NL</i>	<i>FIN</i>	<i>SLO</i>
<i>Motivation</i>										
Interest in politics	<b>-0.09</b>	<b>-0.08</b>	<b>-0.07</b>	<b>-0.12</b>	<b>-0.06</b>	<b>-0.09</b>	<b>-0.08</b>	<b>-0.11</b>	<b>-0.14</b>	<b>-0.10</b>
Policy dissatisfaction	.02	<b>-0.08</b>	<b>-0.10</b>	-.02	<b>-0.04</b>	.02	-.04	<b>-0.12</b>	.03	-.03
Dogmatism scale	<b>.14</b>	<b>.06</b>	<b>.07</b>	.02	<b>.08</b>	<b>.14</b>	<b>.11</b>	<b>.21</b>	<b>.31</b>	-.01
Interpersonal trust – attitudinal	<b>-0.04</b>	<b>.04</b>	<b>.05</b>	<.01	.01	NA	.02	-.02	<b>.06</b>	-.02
Interpersonal trust – structural	<b>.06</b>	.02	.03	-.02	.01	<b>.07</b>	.02	<b>.12</b>	<b>.10</b>	-.03
Trust in national trust institutions	<b>-0.10</b>	-.01	-.03	.06	<.01	<b>.09</b>	-.05	-.07	-.08	-.10
Religious belief & practice	<b>.02</b>	.01	.01	<b>.04</b>	NA	<b>-0.04</b>	<.01	NA	.03	.04
<i>Ability</i>										
Education level	<b>-0.05</b>	<b>-0.09</b>	-.07	<b>-0.17</b>	<b>-0.09</b>	NA	<b>-0.07</b>	<b>-0.13</b>	<b>-0.15</b>	<b>-0.09</b>
<i>Opportunities</i>										
Age	<b>-0.09</b>	<b>-0.05</b>	-.03	<b>-0.10</b>	<b>-0.04</b>	<b>-0.13</b>	<b>-0.08</b>	NA	<b>-0.15</b>	.02
Sex (female=1)	<b>.10</b>	<b>.09</b>	<b>.10</b>	<b>.08</b>	<b>.06</b>	<b>.12</b>	<b>.10</b>	NA	<b>.13</b>	<b>.12</b>
Worker	<b>-0.04</b>	<.01	.01	-.03	.01	-.01	-.03	NA	<b>-0.09</b>	<.01
Student	<b>.03</b>	<b>.04</b>	<b>.05</b>	.02	<b>.02</b>	.02	.03	-.01	.01	.02
Member of political group	<b>-0.04</b>	-.02	<b>-0.03</b>	.03	<b>-0.03</b>	<b>-0.08</b>	-.02	-.06	-.04	-.02
Intercept	.35	.37	.36	.43	.30	.34	.27	.39	.29	.44
<i>Model fit statistics</i>										
N	3467	1162	841	321	1986	917	528	616	386	474
F statistic (p<.001)	57	17	14	5	24	20	8	22	20	6
R <sup>2</sup>	.16	.15	.17	.15	.12	.18	.17	.23	.34	.16
Adjusted R <sup>2</sup>	.16	.14	.16	.11	.12	.17	.15	.22	.32	.14
AIC	1740	978	731	236	1558	509	391	462	154	211
BIC	1654	907	665	183	1486	451	331	418	99	152
Log-likelihood	884	503	379	132	792	266	210	241	91	119
LR(13), p<.001	611	192	158	51	262	180	99	161	160	83

Source: Images of the World in the Year 2000 survey, 1967–1970

Country acronyms: CSSR – Czechoslovakia; CR: Czech subsample (Czech Socialist Republic); SK: Slovak subsample (Slovak Socialist Republic); FRG: Federal Republic of (West) Germany; GB: Great Britain; NOR: Norway; NET: Netherlands; FIN: Finland; and SLO: Slovenia.

Note all are OLS regression model estimates where parameters in bold are significant (p<.10). NA indicates that the variable was ‘not available’ for analysis because the relevant questions were not asked in a specific country. The dependent variable is a summed rating scale of how many times a respondent gave an incorrect answer and ranges 0–16. All variables have been rescaled 0–1 to facilitate comparison of model estimates.

be misleading, as there is no statistical method that can accurately and reliably identify guessing (see Section 4.1.3; Frary 1988: 36).

The modelling results presented in Table 8.3 reveal as predicted a similar pattern to that observed earlier for incorrect answers. Using 'formula scoring' or the 'standard correction for guessing' assumes that respondents guessed randomly resulting in no systematic guessing pattern. Additional research, not reported, did not find evidence that respondents in NATO countries guessed 'Warsaw Treaty' or vice versa on the basis of 'if I do not know the answer then it must be a member of the competing military alliance'. Similarly, there does not appear to be a pattern to selecting 'neither' military alliance, again on the principle that if the respondent did not know the answer then a good guess would be to answer the country was neutral. More generally, previous research suggests formula scoring improves the validity of multiple-choice question results when there is random guessing (Prihoda et al. 2006: 386).

It is important also to stress that formula scoring does not provide estimates of how an individual would have performed if they had not guessed, as lucky guessers will do equally well regardless of adjustment (Frary 1988: 36). Adjustments for guessing work best when (a) the test takers are aware that pure random guessing will be penalised, and (b) guessing is based on partial knowledge, where the test taker is able to disregard response options and arrive at a correct answer by a process of elimination.

In the Images of the World in the Year 2000 survey respondents were asked to answer as best they could and give 'don't know' answers as they felt appropriate: there was no advice about guessing or sanctions. Consequently, the analysis of guessing in this survey is an exploration based on the intuition that (1) guessing is evidence of being uninformed, and (2) the MAO model of knowledge will yield parameter estimates associated with being ignorant. Chapter 4 indicated earlier that guessing and other response strategies did vary cross-nationally and were correlated with aspects of national culture. In this section, the objective is to show that guessing is effectively the opposite of being informed, and that the determinants of knowledge should work 'oppositely' for guessing.

Without labouring over the details, (we can see that) the modelling results for guessing, shown in Table 8.3, are largely the same as for being misinformed except that the parameters are generally larger. This difference suggests that being misinformed involves being more knowledgeable, in a relative sense, than being uninformed (i.e. guessing or replying 'don't know').

As with the determinants of incorrect answers, a person with little interest in politics, having lower levels of education, being young and being a woman are more likely to resort to guessing. The gender gap in guessing that favours women is interesting because it implies those with partial knowledge did attempt to guess the correct answers. However, as

**Table 8.3: A comparison of MAO models of guessing by country**

<i>Models and variables</i>	<i>ALL</i>	<i>CSSR</i>	<i>CSR</i>	<i>SSR</i>	<i>FRG</i>	<i>GB</i>	<i>NOR</i>	<i>NL</i>	<i>FIN</i>	<i>SLO</i>
<i>Motivation</i>										
Interest in politics	<b>-.06</b>	<b>-.05</b>	<b>-.04</b>	<b>-.06</b>	<b>-.03</b>	<b>-.06</b>	<b>-.05</b>	<b>-.10</b>	<b>-.13</b>	<b>-.07</b>
Policy dissatisfaction	<b>-.03</b>	<b>-.06</b>	<b>-.08</b>	-.02	<b>-.04</b>	<.01	-.03	<b>-.10</b>	-.03	<b>-.07</b>
Dogmatism scale	<b>.10</b>	<b>.03</b>	<b>.03</b>	<.01	<b>.05</b>	<b>.10</b>	<b>.08</b>	<b>.11</b>	<b>.19</b>	.05
Interpersonal trust – attitudinal	<b>-.03</b>	<b>.02</b>	<b>.02</b>	<.01	.01	NA	<.01	<b>-.03</b>	.01	<.01
Interpersonal trust – structural	<b>.05</b>	.02	.02	.01	.01	<b>.05</b>	<.01	<b>.07</b>	<b>.07</b>	.02
Trust in national institutions	<b>-.07</b>	.01	<.01	.05	<.01	.01	-.03	<b>-.09</b>	<b>-.09</b>	.01
Religious belief & practice	.01	<.01	<.01	<b>.02</b>	NA	<b>-.02</b>	-.01	NA	<b>.03</b>	.01
<i>Ability</i>										
Education level	<b>-.09</b>	<b>-.04</b>	-.03	<b>-.07</b>	<b>-.06</b>	NA	<b>-.03</b>	<b>-.09</b>	<b>-.10</b>	<b>-.08</b>
<i>Opportunities</i>										
Age	<b>-.05</b>	<b>-.02</b>	-.01	<b>-.06</b>	<b>-.03</b>	<b>-.08</b>	-.03	NA	<b>-.07</b>	<.01
Sex (female=1)	<b>.07</b>	<b>.05</b>	<b>.05</b>	<b>.04</b>	<b>.05</b>	<b>.07</b>	<b>.06</b>	NA	<b>.09</b>	<b>.11</b>
Worker	<b>-.03</b>	-.01	<.01	-.03	.01	-.02	-.01	NA	<b>-.05</b>	<.01
Student	<b>.02</b>	<b>.02</b>	<b>.02</b>	.01	.01	<b>.02</b>	.02	<b>-.03</b>	.02	<b>.04</b>
Member of political group	<b>-.03</b>	<b>-.01</b>	<b>-.02</b>	.02	-.01	<b>-.05</b>	-.01	<b>-.05</b>	-.03	<b>-.04</b>
Intercept	.24	.20	.20	.20	.17	.19	.13	.30	.24	.22
<i>Model fit statistics</i>										
N	3787	1177	853	324	2052	986	538	666	488	598
F statistic (p<.001)	83	16	13	5	28	24	9	31	30	20
R <sup>2</sup>	.21	.16	.18	.16	.15	.20	.16	.28	.34	.27
Adjusted R <sup>2</sup>	.21	.15	.17	.13	.14	.19	.14	.27	.33	.25
AIC	5415	2441	1780	656	3661	1588	990	1082	543	654
BIC	5328	2370	1713	603	3588	1530	930	1037	484	593
Log-likelihood	2722	1235	904	342	1843	806	509	551	285	341
LR(13), p<.001	896	205	169	58	328	216	96	219	205	187

Source: Images of the World in the Year 2000 survey, 1967–1970

Note country acronyms are given in Table 8.2. OLS regression model estimates where parameters in bold are significant (p<.10). NA indicates that the variable was ‘not available’ for analysis because the relevant questions were not asked in a specific country. The dependent variable is the difference between observed numbers of correct answers minus the adjusted knowledge score for guessing with the difference assumed here to be an approximate estimate of guessing. All variables have been rescaled 0–1 to facilitate comparison of model estimates.

we will see in the next section, women were also over-represented among those who refused to guess and replied 'don't know'.

#### *8.5.4 Determinants of 'don't know' answers*

On average, respondents in the Images of the World in the Year 2000 survey replied 'don't know' to about one-third of the 16 political knowledge questions. There were wide differences across both questions and countries in use of the 'don't know' (DK) response option, reflecting the difficulty of items and national differences in knowledge and response strategies. See Chapter 4 for more details. As most respondents gave zero DK answers, using regression models for this form of being uninformed requires care. One approach is to model those who replied DK to all 16 of the knowledge questions: indicating an unwillingness to participate in the quiz reflects a lack of knowledge or interest in politics (and the survey) in contrast to all others. The results of this analysis are presented in Table 8.4, which shows that not having motivation, ability or opportunities to access political news helps explain giving 'DK' answers.

The modelling results are separated into three groups because Slovenia and Finland had much higher levels of DK responses (33% and 38%, respectively) than, for example, the Norwegians (9%), Czechs (17%), and Slovaks (19%). For national cultural reasons, outlined in Chapter 4, respondents in these countries decided to reply DK more often than elsewhere. The differences in predicted probabilities ( $\Delta P$ ) in Table 8.4 show that being dissatisfied with policy making reduced the probability of giving a DK response by 20% in Slovenia and Finland and by just 5% among Czechs, Slovaks, Germans, British and the Dutch. As expected, low interest in politics, dogmatism, lack of trust, lower levels of education, being young, and being a woman increased the probability of respondent giving a DK response to all 16 of the knowledge items.

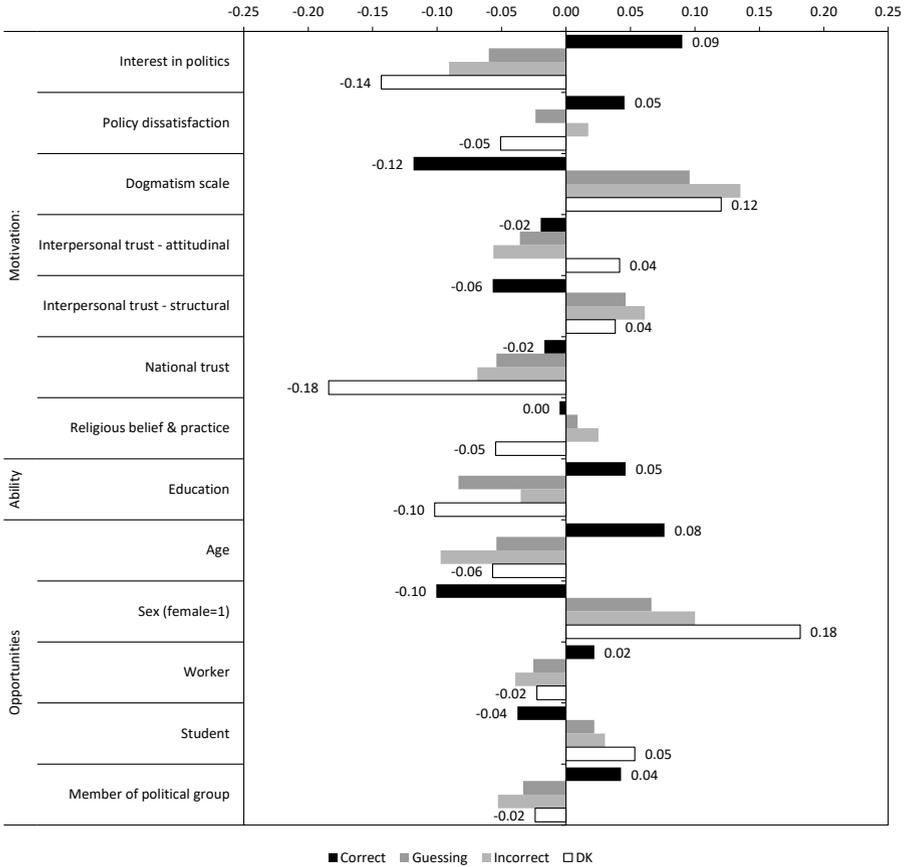
One could argue that this small subgroup ( $n=436$  or 7% of the total sample) is rather special in being uncooperative. Consequently, it would be better to model DK responses in terms of their frequency at the individual level. A series of OLS, Quantile and Negative Binomial regression models were estimated to address this concern. The results are substantively the same as those reported in Table 8.4, suggesting that consistent DK respondents reflect in pure form the general profile of uninformed interviewees. Overall, the determinants of DK answers were the reverse of those explaining correct answers. These results are similar to those reported for giving 'don't answers' to a Eurobarometer (EB 39.1, 1993) survey-based quiz of scientific knowledge, indicating that the MAO model has general application to other types of knowledge (Bauer 1996: 58–62).

**Table 8.4: MAO models of the determinants of ‘don’t know’ responses to questions about military alliance membership, 1967–1970**

<i>Models and variables</i>	<i>All 7 countries</i>			<i>5 countries</i>			<i>Slovenia &amp; Finland</i>		
	<i>B</i>	<i>Sig.</i>	$\Delta$ P	<i>B</i>	<i>Sig.</i>	$\Delta$ P	<i>B</i>	<i>Sig.</i>	$\Delta$ P
<i>Motivation</i>									
Interest in politics	-0.87	.002	-.04	-1.41	.002	-.02	-.83	.034	-.10
Dissatisfaction with policy making	-1.86	<.001	-.11	-1.92	<.001	-.05	-1.40	.001	-.20
Dogmatism	1.67	<.001	.07	2.07	.001	.03	1.27	.005	.15
Interpersonal trust: attitudes	-.57	.017	-.02	-1.98	.001	-.02	-.28	.354	-.03
Interpersonal trust: structure	1.34	<.001	.06	.80	.224	.01	1.49	.002	.19
Trust in national institutions	-1.12	.002	-.05	-1.08	.055	-.02	-.47	.383	-.06
Trust in national leaders	-.67	.006	-.03	-.84	.047	-.01	-.41	.199	-.05
Religious belief & practice	-.81	.006	-.03	-1.48	.062	-.02	-.93	.009	-.09
<i>Ability</i>									
Education level	-3.09	<.001	-.13	.67	.505	.01	-1.41	<.001	-.14
<i>Opportunity</i>									
Age	-.54	.022	-.02	-.72	.066	-.01	-.47	.129	-.06
Sex (female=1)	1.18	<.001	.05	.93	.001	.02	1.31	<.001	.17
Worker	.53	<.001	.02	.48	.057	.01	.55	.003	.07
Student	-.30	.212	-.01	-1.03	.066	-.01	-.27	.355	-.03
Member of a political group	-.20	.245	-.01	.13	.681	<.01	.09	.709	.01
Intercept	-1.10	.024	NA	-2.69	.004	NA	-1.65	.011	NA
<i>Model fit statistics</i>									
LR $\chi^2(14)$ , $p \leq .001$	399			120			178		
Log-likelihood	871			335			457		
McFadden's $R^2$	.19			.15			.16		
ML (Cox-Snell) $R^2$	.10			.04			.15		
McKelvey & Zavoina's $R^2$	.35			.37			.31		
Cragg-Uhler $R^2$	.23			.17			.24		
Adjusted Count $R^2$	.03			<.01			.08		
AIC	1772			699			945		
BIC	1866			788			1019		
N	3789			2701			1088		

Source: Images of the World in the Year 2000 survey, 1967–1970, combined dataset  
 Note that the dependent variable is replied ‘don’t know’ to all of the battery of political knowledge questions, where zero indicates the respondent provided definite answers to one or more questions, while a one (‘1’) shows that the interviewee adopted the strategy of an effective non-response to all the knowledge items. Logit model coefficients are presented in addition to statistical significance and predicted probability ( $\Delta$ P) from the minimum to the maximum value on the explanatory variable. NA indicates ‘not applicable’.

**Figure 8.4: A comparison of MAO model parameters for being informed, uninformed and misinformed**



Source: Images of the World in the Year 2000 survey, 1967–1970, combined data set  
 Note all are OLS regression model estimates except for the ‘don’t know’ model which is a quantile regression model where those (n=422) who replied ‘DK’ to all 16 of the knowledge questions are excluded from analysis. Estimates are based on weighted data ensuring all respondents are given equal weight despite different national sample sizes. All variables have been rescaled 0–1 to facilitate comparison of model estimates. The dependent variable in the informed / correct model is an IRT model of correct answers. The incorrect model is a summated rating scale. The ‘guessing’ dependent variable is the difference between correct answers plus guessing minus correct answers purged of guessing. The total number of cases for the misinformed model is less. This is because 322 respondents answered DK to all knowledge items and were excluded from analysis.

### *8.5.5 Comparison of correct, incorrect, guessing and DK models*

Comparing the Motivation-Ability-Opportunities (MAO) models for correct, incorrect, guessing, and don't know answers allows us to go a little beyond the predictions outlined in Figure 8.1, which have been largely confirmed. Here the estimates for DK are based on a quantile regression estimator, where deviation from the 75th percentile 'don't know' response rate is modelled. This value was chosen to best represent a substantively important feature of the DK distribution because the low mean value is strongly influenced by the large number of zero 'don't know' counts. One of the advantages of using a quantile regression model estimator is that the parameters are more comparable with OLS coefficients (presented earlier) than the results of a Negative Binomial model for example. The quantile model diagnostics, and especially the tests of the normality of the error terms, suggest this estimator is better than OLS, although the substantive results are very similar.

An examination of the size of the parameter estimates shown in Figure 8.4 reveals that in general across all the countries examined there is a broad division between being informed versus uninformed and misinformed. This makes sense and represents a useful means of cross-validating the modelling results. What is more interesting about Figure 8.4 is that the explanatory effects (or coefficients) for giving correct and DK answers are most different when the guessing and incorrect parameters have intermediate values.

This general pattern in Figure 8.4 suggests that the continuum for being informed, uninformed, and misinformed is in information terms perhaps best represented as a dimension that ranges as follows: informed (correct) -> uninformed (guessing) -> misinformed (incorrect) -> uninformed (don't know). An important substantive implication is that 'don't know' answers are probably not evidence of shy respondents not wishing to guess, but evidence of genuine ignorance. Guessers and those who answered incorrectly form an intermediate group who may be best defined as having partial knowledge due to their relatively lower levels of motivation, ability, and opportunity to consume political messages. Country profiles similar to Figure 8.4 reveal a broadly similar pattern, reflecting national specificities that most likely are connected with some of the national cultural factors highlighted in Chapter 4.

## **Conclusion**

This chapter has shown that misinformed and uninformed citizens share a profile that is largely opposite to that of their informed fellow citizens using the MAO framework for modelling the answers to political knowledge questions. The previous chapter revealed that there are important differences in the profile of answers to knowledge questions that seem to be correlated with national cultures. The individual-level analyses presented in this chapter show that although there are important national

differences (that cannot be explored for technical reasons with multilevel modelling) there is an important general pattern. Correct and don't know responses appear to represent the most different forms of answers to factual political knowledge questions.

This pattern sheds light on debates about how best to interpret DK answers to political items in surveys. Here it has been argued that some respondents, such as women, who tend to have partial knowledge refuse to guess and plump for 'don't know' answers. If these respondents guessed they would most likely be credited with a correct answer. The evidence presented in this chapter suggests that women may genuinely know less about politics, and this is why they sincerely report they do not know the answer.

In general, the research strategy of broadly dividing respondents into informed (correct answers) versus uninformed and misinformed (DK, guessing and incorrect, respectively) seems appropriate. It is true that there is a difference between being uninformed (DK and guessing) and misinformed (incorrect), but this seems to be more a matter of degree than kind. Citizens who are unable to answer few political knowledge questions correctly have a general profile, captured by the MAO model results, indicating lower motivation, ability, and opportunities for exposure to political messages.

The next chapter will build on some of these insights and explore how an individual's personality traits may help explain differences in political knowledge, be it the objective, subjective, or interpersonal facets of knowledge explored in previous chapters. This broadening out of the study of the MAO-based determinants of different facets of political knowledge represents an important opportunity to enhance the study of how citizens understand and gain knowledge of the world of politics.

# Chapter 9: Objective Political Knowledge and Personality Traits

My basic hypothesis is that the connection between personality and political belief is not entirely [...] a matter of psychological benefits gained or functions served by holding some political attitude [...] Rather, I shall argue that the relationship between personality and commitment to democratic values has as much to do with the impact of personality factors on an individual's capacity for social learning as with their impact on the satisfaction of particular personality needs and motives.

Paul M. Sniderman (1975: 4)

## Introduction

This chapter will use insights from psychology to explore the foundations of objective, or factual, political knowledge. It is important here to reiterate what is meant in this book by the term 'objective political knowledge'. Objective political knowledge may be defined as 'the range of factual information about politics that is stored in long-term memory' (Delli Carpini and Keeter 1996: 10). The two key points in this definition are (a) factual information held in (b) long-term memory. These two factors will be important later in looking at the association between factual knowledge and individuals' general inclinations, dispositions, and personality traits that persist over long periods.

Within political science, theories and methods from psychology have always played an influential role in empirical research and explanations for political attitudes, beliefs, and behaviour. Two influential explanations of how citizens gain political knowledge are based on the social-psychological research of William J. McGuire and Herbert McClosky from the 1960s. Later John R. Zaller (1992) developed a two-step 'reception-acceptance' model of public opinion change, taking strong inspiration from McGuire's (1969) work on attitude change, where level of political knowledge mediates how different citizens react to political news.

In contrast, Paul M. Sniderman (1975) took his inspiration from McClosky's (1970) study of political attitudes, beliefs, and ideologies, and more specifically the link between personality and conformity via social learning (i.e. learning through observation or direct instruction). The main link between all of these influential researchers is interest in how social learning determines political attitudes and behaviour.

The text in Box 9.1 provides a more detailed comparison between Zaller's and Sniderman's conceptions of how citizens learn about politics. In this chapter, the approach adopted will focus more on Sniderman's emphasis on the importance of personality traits for explaining individual differences in factual political knowledge, rather than Zaller's emphasis on the role of political elites. In other words, a key reason why

some people are more informed about politics than others has its origins in the person and their motivation to learn more about the world.

The study of personality traits has a long history where there has been considerable debate over the existence and utility of using traits as a means of examining individual personalities. One influential example of this history is Gordon W. Allport's (1927) influential article 'Concepts of trait and personality', which argued for a dictionary or lexicographical approach to the study of personality traits: 'It is almost impossible to find a trait for which an adjective exists which has not been approached with some degree of suggestive investigation' (Allport 1927: 284, quoting G. B. Watson 1927).

Allport developed the 'lexical hypothesis', which asserts that the most important personality traits exist in common language and natural language dictionaries provide a productive and comprehensive means of mapping personal attributes (Allport and Odbert 1936). In essence, the lexicographical approach to human personality has on occasion involved searching (initially English-language) dictionaries for adjectives of personal characteristics and using inductive statistical techniques to determine the type and number of factors underpinning personality.

The lexical approach to examining the structure of human personality led to many researchers fielding hundreds of trait measures in questionnaires and self-reports. These data were subsequently subjected to Exploratory Factor Analysis (EFA). Here the goal was to identify the latent general factors underpinning personality. The Big Five structure was independently discovered by at least four independent research teams during the 1980s. Without getting into the technical details of trait measurement and data analysis, the key point is that the Big Five conception of the human personality is that it has a hierarchical structure. Each of the Big Five traits, i.e. Openness to experience, Conscientiousness, Extroversion, Agreeableness, and Emotional stability, summarises many more specific personality characteristics (John and Srivastava 1999).

The question of why personality traits should help explain individual differences in level of objective, or factual, political knowledge can be explained in a number of ways. One influential approach, as noted by Paul M. Sniderman in the epigraph above, is the functional perspective, which argues that political knowledge offers psychological benefits to individuals with certain types of (Big Five) personality traits. Alternatively, specific personality traits are linked to being factually informed about politics because individuals with certain traits, such as openness, are more likely to engage in social (and political) learning. With cross-sectional survey data it is not possible to say which of these two explanations is best because of observational equivalence.

One of the aims of this chapter is to determine which, if any, personality traits help explain differences in objective knowledge and why this might be the case. Later in Chapter 10 there will be a broader exploration of personality traits effects, where objective, implicit, and interper-

### Box 9.1: Social learning and political knowledge

#### *Sniderman's (1975) Exposure, Comprehension, Acceptance Model*

Early research on the link between personality and politics adopted a motivation perspective where individuals adopt specific political beliefs and values because they serve a psychological need. In contrast, a social learning perspective based on the relationship between personality and politics contends that personality is important because it facilitates social learning. Sniderman argued that the most important aspect of personality for politics is self-esteem. At its simplest, self-esteem refers to an individual's positive or negative evaluation of themselves (Sniderman 1975: 44). Citizens with a high level of self-esteem, i.e. they feel very positively about themselves, are more likely to be exposed to political news, understand that news, and become knowledgeable. In Sniderman's (1975: 126–128) model of self-esteem and political learning, an individual's personality mediates exposure to political news, comprehending media messages and acceptance of such information. Citizens with high levels of self-esteem will have high levels of political knowledge and democratic norms.

#### *Zaller's (1992) Receive, Accept, Sample (RAS) Model*

The formation and expression of political opinions and attitudes is explained in terms of information citizens are exposed to in the media: typically media messages carry the content of elite discourses. According to the RAS model, elites play a central role in motivating citizens into linking their political beliefs and values with knowledge to express opinions in mass surveys. In other words, the key mediator in this process is not something internal to the individual, but the political context and more particularly the actions of elites. The key theoretical elements or axioms of the RAS model may be summarised as follows.

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<i>Axiom</i>	<i>Notes</i>
Reception	The greater the person's level of cognitive engagement with an issue the more likely they will be exposed to and comprehend (i.e. receive) political messages on this issue
Resistance	Individuals resist arguments that are incompatible with their predispositions. However, this resistance depends on having sufficient contextual information to be able to know that there is a relationship between a message and their predispositions
Accessibility	More recent considerations require less time it takes to retrieve from memory and use for answering a question
Response	Survey respondents answer questions by averaging across all the considerations that are immediately accessible to them, and this sampling of considerations depends on the political context

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### *Comparison*

Both Sniderman (1975) and Zaller (1992) used two-step reception-acceptance models of political attitude formation and change. Sniderman emphasises the mediating role personality plays in learning about politics and holding democratic values, whereas Zaller stresses the importance of knowledge in the formation and expression of political opinions that might be stable and consistent or unstable and inconsistent over time. For Sniderman, the key driver of opinion formation and change is individual personality while for Zaller it is elite discussions carried in the media. Sniderman's (1975) equating of personality solely with self-esteem is an oversimplification of how traits are related to attitudes and beliefs, and Zaller's (1992: 309) RAS model takes no account of personality (long-term predispositions) and life experience. For more on these issues see the concluding chapter.

sonal knowledge will be considered. This integrates and broadens the work presented earlier in Chapter 7.

This chapter will show that factual political knowledge among Czech citizens is most strongly correlated with being an organised type of person (i.e. conscientious) and having a relaxed optimistic outlook on life indicated by having an emotional stability trait. Equally importantly, these personality trait effects are independent of the Motivation-Ability-Opportunity (MAO) model results reported in earlier parts of this book such as Chapter 7.

Section 1 of this chapter will commence with a brief overview of the Big Five model of personality. This will be followed in Section 2 by an overview of the issues involved in operationalising the Big Five model of personality traits. Section 3 presents research from psychology which has attempted to understand whether having broad general factual knowledge is connected with particular personality traits. This work is useful here because objective political knowledge is a subset of general knowledge. Therefore, the insights from the general knowledge literature should have application to the study of the personality origins of factual political knowledge. Section 4 examines the link between personality traits and levels of political knowledge. Section 5 discusses the Ten Item Personality Inventory (TIPI) scale for measuring the Big Five personality traits. Section 6 presents the results for two models: (a) a personality traits only model and (b) a Motivation-Ability-Opportunity (MAO) and personality traits model. The concluding section outlines the importance of personality for exploring political knowledge and introduces the themes developed in the next chapter.

## 9.1 Big Five Factor Model of Personality

The Big Five theory of personality emphasises the importance of (1) Openness to experience, (2) Conscientiousness, (3) Extroversion, (4) Agreeableness and (5) Emotional stability. A brief summary of what each of the Big Five personality traits refers to is presented in Figure 9.1. In survey-based research, the personality traits of an individual are measured from the answers the person gives (often in the form of agree/disagree statements) to a long set of questions. As most people tested are not aware of how the questions are interpreted by psychologists it is assumed that the items are answered validly and reliably. All of the most widely used personality trait questionnaires have been subject to intensive testing over decades. A little more will be said on this point in the next section.

The Big Five approach to the study of personality has been criticised for (a) being overly empirical and lacking any explicit theory of personality, and (b) not describing all of human personality (note Block 1995). Nonetheless, this approach to personality has been very influential because subsequent research has shown that the Big Five traits are very stable through the life-cycle and provide a means of explaining a broad range of human attitudes and behaviours. One of the main reasons that the Big Five model of personality traits is seen to be theoretically important is because the personal orientations measured are ‘core’ long-term dispositions and are seen to be causally prior to attitudes, beliefs and values.

In addition, the questions used to measure the Big Five personality traits make no direct reference to public affairs, and are thus independent of the political factors they are used to explain. This represents an important opportunity to construct and test new models of political attitudes and behaviour that have both psychological and biological components because these are viewed as the twin foundations of personality by some political scientists (Mondak 2010: 6).

Within the field of political science some Big Five traits have been used to predict civic engagement (Mondak 2010: 92–121), ideological orientation (Chirumbolo and Leone 2010), voter turnout (Vecchione and Caprara 2010; Blais and St. Vincent 2011; Gerber et al. 2011b), party identification (Gerber et al. 2012), party choice (Vecchione et al. 2011), campaign involvement (Gerber et al. 2010a–b, 2011a), and issue positions (Gerber et al. 2010a–b). With regard to political knowledge, one personality trait, openness to experience, has been found to have a strong and consistent effect on ‘information acquisition and opinion formation’, where curious and perceptive citizens are expected to be more ‘interested in and attentive to politics’ and to score well on political knowledge quizzes (Mondak and Halperin 2008: 342).

It could be argued that a personality trait like ‘openness to experience’ is likely to be strongly correlated with level of education and political knowledge. However, this is not the case because curiosity, or the

**Figure 9.1: The ‘Big Five’ model of personality traits**

<i>Personality trait</i>	<i>Contrasting traits</i>	<i>Brief description</i>
Openness to experience	Curious vs cautious	This refers to original thinking and having a complex cognitive life. It is the opposite of being closed-minded and cautious
Conscientiousness	Organised vs easy-going	A trait where a person exhibits control that underpins intentional behaviour and goals where there is planning, delayed gratification and following norms
Extroversion	Outgoing vs reserved	A trait where a person embraces the social world and is seen to be sociable, active and assertive. It is contrasted with being introverted
Agreeableness	Friendly vs detached	A trait that refers to being kind-hearted, altruistic, trusting and modest and reflects a social and collective orientation
Emotional stability	Confident vs nervous	Used to refer to a person who is even tempered and not characterised as being moody, anxious, nervous or sad. Emotional stability is linked with responding well to stress

Source: Matthews, Deary and Whiteman (2009: 23–26)

Note for a more detailed overview of these five traits from a political science perspective see Mondak and Halperin (2008); Mondak (2010: 24–65), Mondak et al. (2010) and Gerber et al. (2011).

‘openness to experience’ personality trait, is theoretically different from familiar indicators of political sophistication such as interest in politics, education, and possession of factual political knowledge. In short, being a curious person is not always strongly associated with having a high level of education and political knowledge.

## **9.2 Operationalisation of the Big Five Factor Model of Personality**

The study of personality in political science is grounded in the assumption that differences in individuals’ personalities have systematic effects on political attitudes and behaviour. The Big Five theory of personality is used to explain individual attitudes and behaviour because this theory has proven to be useful in many other areas of research. The Big Five

personality traits are most often measured with a set of questions where the respondent (a) agrees or disagrees with statements, or (b) selects from a set of self-descriptive adjectives. The number of questions used to measure the Big Five varies from ten questions in ‘ultra-short’ scales to more than two hundred items in detailed scales.

For example, the Revised NEO Personality Inventory (NEO PI-R) scale has 240 questions, and the Sixteen Personality Factor Questionnaire (16PF) contains 185 multiple-choice items that take 35 to 50 minutes to ask to adults (Costa and McCrae 1992; Cattell 1989). A smaller personality trait scale was developed by Goldberg (1992) using a set of one hundred trait-based adjectives. In contrast, the Big Five Inventory (BFI-44) uses an even smaller number of questions, i.e. 44, and has been implemented in a number of surveys, such as the Cooperative Campaign Analysis Project (CCAP) in 2008 in the United States (John, Donahue and Kentle 1991; Gerber et al. 2011b: 278).

A key point here is that within mass surveys of nationally representative samples, implementation of the NEO PI-R, 16PF, and even the shorter BFI questionnaires, is often impractical. This is because few other questions could be asked to respondents in interviews that typically last maximally ninety minutes, and usually about half that amount of time. Attempts have been made to measure the Big Five personality traits using as few as questions as possible while still retaining the important psychometric characteristics of validity and reliability.

### *9.2.1 Short personality trait scales*

Currently, one of the shortest Big Five personality scales used is the Ten Item Personality Inventory (TIPI) developed by Gosling et al. (2003). More details about this scale will be given later in Section 9.4. It should be noted that there is also a short version of the BFI-44 called the BFI-10 scale, which was developed as an ultra-short (10 item) cross-cultural research instrument (Rammstedt and John 2007). In general, it is advised within psychological research that short ten item scales such as TIPI and BFI-10 should only be used in exceptional circumstances.

Gerber et al. (2011) in their analyses of TIPI scales implemented in various mass surveys found that this short scale provides a reasonably valid and reliable estimate of an individual’s Big Five personality traits profile. However, other political scientists have used other short personality scales, presumably because they feel that while the TIPI scale is convenient to implement, it may not be sufficiently valid and reliable for making causal inferences. For example, Mondak (2010) used short customised personality traits scales derived from previous research; however, these short Big Five trait scales were different in each of the three surveys fielded.

With regard to political knowledge, previous research reveals that the impact of personality traits on factual political knowledge can be

both direct and indirect (Mondak 2010). For example, this work shows that there is a strong direct link between openness and knowledge while the link between extroversion and knowledge is influenced by media use. Moreover, the impact of openness on political engagement is shaped by political knowledge (Mondak et al. 2010). Such interaction effects are explored later in Chapter 10. In this chapter, the focus will be on comparing direct personality traits effects on the objective, subjective and interpersonal facets of political knowledge introduced in earlier chapters.

### *9.2.2 Personality traits, genetics and political attitudes*

Within the social sciences there has been much research on exploring the nature of the causal relationship between individual voters' (and leaders') personalities and their political attitudes and behaviour (e.g. Lasswell 1929, 1930, 1948; Adorno et al. 1950; Eysenck 1954, 1967; Sniderman 1975; Mondak and Halperin 2008; Gerber et al. 2010a-b, 2011a-b, 2012; Mondak et al. 2010; Verhulst et al. 2010; Osborne et al. 2013). In some research there have been references to a 'democratic personality', suggesting some individuals are innately more democratic, and less authoritarian, than others (e.g. Binford 1983). Here it is often (implicitly) argued that a person's personality shapes the type of political attitudes that they embrace later in life. Evidence for this conclusion is often based on observed correlations between specific personality traits and political attitudes.

There is a tension in such an argument's causal reasoning: personality is currently viewed to have strong genetic origins, i.e. 40–50% and traits develop during early childhood, while political attitudes are seen to emerge much later following socialisation (Bouchard 2004; Hopwood et al. 2011). This timing suggests the emergence of personality first and political attitudes later. However, recent research points to the emergence of personality traits and political attitudes simultaneously early in life, indicating that personality traits and political attitudes have a complex reciprocal relationship. In this respect, Verhulst et al. (2012) have shown that personality traits and political attitudes may have genetic origins.

This debate is important in highlighting the complex origins of the relationship between personality traits and things like political knowledge. Within this chapter the modest goal is to explore if personality traits help explain differences in factual knowledge among Czech citizens. The study of 'personality and politics' is important because it tests the assumption in research on political cognition and information effects that 'information acts as the great equalizer'. Mondak (2010: 21) summarises this assumption as follows:

If two individuals live in similar contexts and have similar backgrounds, but they differ in how much political information they hold, we assume that raising the information level of the lesser informed person to equal that of the better-informed person would pull their political attitudes and behaviors into alignment with one another.

This perspective ignores one key source of interpersonal differences: some individuals are more willing, or motivated, to seek out and accept new information than others. This difference is often associated with such personality traits as open- or closed-mindedness. Long-term psychological differences between people, often denoted in terms of personality traits, may be an important factor (or interaction variable) that links political sophistication with a range of political attitudes and behaviours. One of the most influential and efficient means of measuring personality traits using survey questions is derived from the Big Five (or five factor model) personality trait theory.

### 9.3 Personality Traits and General Factual Knowledge

As noted earlier, psychological research has attempted to understand whether having a broad factual knowledge of the world is connected with particular personality traits. This field of research is important because objective political knowledge is a subset of general knowledge. Therefore, the insights from the general knowledge literature should have application to the study of the personality origins of factual political knowledge.

Within psychology the study of political knowledge forms part of examinations of general knowledge, which is known more technically as 'long-term semantic memory'. One influential study by Irwing, Cammock and Lynn (2001) constructed a test of general knowledge with 216 items across 19 thematic domains which included politics.<sup>40</sup> Here general knowledge was conceptualised as 'culturally valued knowledge, communicated by a range of non-specialist media' that excluded 'ephemera' such as television soap operas, and specialist information that required 'extensive training' (Irwing et al. 2001: 859). In the final six factor (Exploratory Factor Analysis) model, all of the political knowledge items are loaded onto a 'Current Affairs' dimension along with knowledge of facts from history, finance, geography and discovery, and exploration.

Overall, political knowledge was found to be 'positively inter-correlated and explicable in terms of a general long-term semantic memory factor and six lower-order long-term memory domain factors'. A key implication of this finding is that factual political knowledge is not seen to be an independent domain of fact-based knowledge, but forms part of general knowledge where individuals who know political facts also tend

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40 Examples of (general) political knowledge questions were: 'Who was the leader of the Khmer Rouge and became premier of Cambodia in 1975?' [Answer: Pol Pot] or 'Who has ruled Cuba since 1959?' [Answer: Fidel Castro] (Irwing et al. 2001: 860).

to know scientific, cultural, and other facts. This suggests that research on the links between personality traits and general knowledge is also applicable to the specific domain of political knowledge.

### *9.3.1 Traits associated with general knowledge*

Examining some of the results from this stream of psychological research that typically uses small groups of student volunteers ( $n \geq 300$ ), rather than large national representative samples ( $n \geq 1000$ ), one finds that the trait of ‘openness to experience’ (hereinafter openness) is most frequently linked with having higher levels of general knowledge. This result makes sense because the openness trait reflects innate curiosity about the world and is also positively related to intelligence (as measured by standard IQ tests). This suggests that an inquiring mind tends to accumulate more general knowledge through exploration. However, the links between other personality traits and general knowledge exhibit inconsistent effects across various studies as shown in Table 9.1.

Some studies have argued that extrovert individuals tend to have lower levels of general knowledge because in the former case individuals invest less time in learning. However, there are good reasons to think that the relationship between extroversion and factual political knowledge might be complicated. On the one hand, this is because it is also thought this trait may have little impact on ‘general’ knowledge, but may have a negative relationship with ‘specialist’ knowledge: extroverts may be less inclined toward study at university than their more introverted studious colleagues. On the other hand, this negative relationship may not apply to objective political knowledge because typical quizzes refer to general rather than specialist factual knowledge.

Other studies indicate that those with an emotional stability personality trait should be more informed because they are less nervous and score well in general knowledge tests (Chamorro-Premuzic et al. 2006; Ackerman et al. 2001). There has also been speculation that conscientiousness might also be linked to level of general knowledge. This is because individuals with this trait are more likely to seek information in order to fulfil their civic duty to be informed citizens (note Chamorro-Premuzic, Furnham and Ackerman 2006). In contrast, conscientiousness could be associated with lower levels of general knowledge because this trait has a negative correlation with intelligence.

Some of the key lessons to be learned from psychological research into the links between personality traits suggest a positive relationship between general factual knowledge and (1) openness, (2) conscientiousness, and (3) emotional stability, and a negative relationship with (4) extroversion. For the agreeableness trait no strong relationship was observed. As will be seen in the next section, these results are different from those observed in studies of the association between personality traits and factual political knowledge.

## 9.4 Personality Traits and Factual Political Knowledge

There is a long history within the study of politics which asserts that differences in individual's personalities have systematic effects on political attitudes and behaviour (e.g. Lasswell 1948; Adorno et al. 1950; Sniderman 1975). For recent overviews of research of survey-based research on the impact of personality traits on political attitudes and behaviour, see Mondak and Halperin (2008) and Gerber et al. (2011). These reviews highlight the importance of the Big Five approach to both the conceptualisation and measurement of personality traits.

Jeffrey J. Mondak (2010: 103), in his book-length study entitled *Personality and the Foundation of Political Behavior*, reports that 'openness to experience and extroversion function as strong positive forces in terms of exposure to, and acquisition of, political information'. Mondak also found, somewhat surprisingly, that conscientious individuals participate less in political discussions and have lower than average levels of political knowledge. Scoring high on the emotional stability and agreeableness scales was associated with low levels of political knowledge and opinionation. In sum, Mondak concluded that a person exhibiting open and extrovert personality traits are more interested and knowledgeable about politics. In contrast, individuals characterised by the traits of conscientiousness, agreeableness and emotional stability are less engaged and knowledgeable.

Later research by Rasmussen (2016) in Denmark used a large Big Five test, i.e. the NEO-PI-R scale (with 60 questions), and also had an intelligence (IQ) measure for each respondent. This Danish study was composed of two surveys. The first survey was an internet sample fielded in 2010 (n=3,612) that was representative of the national population where the response rate was 45%. The second survey was composed of young men eligible for military service (19 to 33 years) who were interviewed online in 2012; here the response rate was 28% (n=1,072). Analyses of these two datasets found that openness and emotional stability had a positive impact on factual political knowledge. In contrast, extroversion had a negative effect, while conscientiousness and agreeableness had no significant effects ( $p \leq .10$ ). These results controlled for the potentially confounding effects of the respondent's age, gender, education, and parental education. This research is important because it reveals two things. First, the impact of education on objective political knowledge declines with intelligence. Second, education can compensate for the effect of limited cognitive abilities (intelligence) on factual political knowledge.

### 9.4.1 *The information equalising assumption*

Assuming that personality traits do help to explain differences in political knowledge, a critical question is how to measure the Big Five personality traits in an efficient and effective way in a mass survey. Gerber

**Table 9.1: Correlations between Big Five personality traits and general knowledge**

<i>Studies</i>	<i>N</i>	<i>Openness to experience</i>		<i>Conscientiousness</i>		<i>Extroversion</i>		<i>Agreeableness</i>		<i>Neuroticism</i>	
		<i>R</i>	<i>p</i>	<i>R</i>	<i>p</i>	<i>R</i>	<i>p</i>	<i>R</i>	<i>p</i>	<i>R</i>	<i>p</i>
ABBFK (2001)	320	.34	**	na		-.24	**	na		na	
SWGC (2004)	104	.34	*	.08		.05		<.01		.07	
CFA (2006)	201	.16	*	-.05		-.16	*	.02		-.18	*
FC (2006): S1	118	.36	**	.40	**	.06		.05		.14	
FC (2006): S2	92	.25		.10		.01		-.12		.01	
FC (2006): S3	108	.50	**	.23	*	.09		.19		-.11	
FCGM (2007)	430	.31	**	-.12	**	-.08		-.07		-.07	
FSAC (2008)	101	.40	**	.08		.09		.01		.11	
FAM (2009)	212	.40	**	≤.01		-.02		.04		-.08	
BFS (2010)	100	.10		.23	*	-.01		-.09		-.01	
<i>WMC</i>	1786	.32		.04		-.07		-.01		-.04	

Source: McGreal (2013), \*  $p \leq .05$ ; \*\*  $p \leq .01$ .

Note that the number of cases, parameter estimates and probability are given in the N, R and p columns respectively. A more reliable estimate of the association (R) between personality traits and general knowledge is to calculate ‘effect sizes’ by constructing a weighted average of the correlations reported in each article reported in this table. These effect sizes or weighted arithmetic mean correlations (WMC) are reported in the bottom row of this table. Legend for article references: ABBFK (2001): Ackerman, Bowen, Beier & Kanfer (2001); SWGC (2004): Schaefer, Williams, Goodie & Campbell (2004); CFA (2006): Chamorro-Premuzic, Furnham, & Ackerman (2006); FC (2006): S1-S3: Furnham & Chamorro-Premuzic (2006) - Studies 1 to 3; FCGM (2007) Furnham, Christopher, Garwood & Martin (2007); FSAC (2008): Furnham, Swami, Arteché, & Chamorro-Premuzic (2008); FMA (2009): Furnham, Monsen, & Ahmetoglu (2009); BFS (2010): Batey, Furnham, & Safiullina (2010). Correlations not available or asked are denoted by ‘na’.

et al. (2011: 280–282) compared models using the short TIPI and much larger Big Five Inventory (BFI) scales and reported that for models of political attitudes where personality traits are explanatory variables there were few differences between the TIPI and BFI parameters. There was, however, less consistency for the political interest models and substantial differences for models of political participation. Unfortunately, no comparisons were reported for political knowledge using both the TIPI and the BFI personality scales.

#### *9.4.2. Application of the TIPI scale in the Czech Republic*

The TIPI scale was translated into Czech and fielded for the first time in the Czech Republic in a nationally representative survey undertaken by the Public Opinion Research Centre (CVVM) during the first half of November 2012. A summary of the results of some previous research on the association between the Big Five personality traits and factual or objective political knowledge is shown in Figure 9.2. Here one can see that there are some consistent findings. Individuals who score high on 'openness to experience' have higher levels of political knowledge. Being conscientious and agreeable tends to be associated with lower levels of knowledge for the reasons noted in Figure 9.2.

The results for extroversion and emotional stability are more inconsistent with some positive and negative relationships reported in the four studies examined. Figure 9.2 also shows that conscientiousness and emotional stability have a negative relationship with knowledge. The remaining personality traits, extroversion and agreeableness have negative non-significant effects suggesting some similarity with objective political knowledge because of common patterns of association.

To sum up, it is expected that objective political knowledge should exhibit a positive relationship with openness to experience and a negative association with conscientiousness. These contrast with the results from psychological studies of general factual knowledge, where positive links were observed with openness, conscientiousness, and emotional stability, and a negative one with extroversion. These different findings reveal that past research on the link between factual knowledge and personality traits has generated mixed results.

### **9.5 Measuring Personality Traits with the TIPI Scale**

There has been relatively little research on the link between personality traits, general knowledge, and political knowledge in particular (cf. Mondak 2010; Gerber et al. 2010a-b, 2011). Within this chapter political knowledge was operationalised in the CVVM nationally representative sample survey as a set of eight items that were used to construct a latent scale using a Two Part Logistic (2PL) Item Response Theory (IRT) model, similar to that reported in earlier chapters of this book. Personality traits were measured using a Czech translation of Gosling et al.'s (2003) Ten Item Personality Inventory (TIPI).

Here are a number of personality traits that may or may not apply to you. Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement. You should rate the extent to which the pair of traits applies to you, even if one characteristic applies more strongly than the other. Response options: (1) disagree strongly, (2) disagree moderately, (3) disagree a little, (4) neither agree nor disagree, (5) agree a little, (6) agree moderately, (7) agree strongly.

**Figure 9.2: Expected effects of the Big Five personality traits on factual knowledge, attentiveness and opinionation**

<i>Personality traits</i>	<i>Variable</i>	<i>Effect</i>	<i>Notes</i>
Openness to experience	Knowledge	+	Having a curious and open-minded personality motivates a person to be engaged in politics, seek political information and express opinions
	Attentiveness	+	
	Opinionation	+	
Conscientiousness	Knowledge	-	Negative links may reflect (a) deference to superior knowledge of experts and (b) lack of time for political engagement because of family & work commitments
	Attentiveness	-	
	Opinionation	-	
Extroversion	Knowledge	+	Extroverts view themselves as opinionated and like to share their opinions and knowledge with others and are motivated to be informed and engaged in politics
	Attentiveness	+	
	Opinionation	+	
Agreeableness	Knowledge	-	Individuals who are sociable and consensus oriented avoid political engagement due to debates and conflicts
	Attentiveness	-	
	Opinionation	-	
Emotional* Stability	Knowledge	+	People who have an stable emotional personality tend not be strongly opinionated; and hence are less motivated to seek political information & knowledge
	Attentiveness	+	
	Opinionation	+	

Sources: derived from Mondak (2008: 359), Mondak (2010: 99–104), Gerber et al. (2011a), Gerber et al. (2011b: 270).

I see myself as: (1) Extroverted, enthusiastic, (2) Critical, quarrelsome, (3) Dependable, self-disciplined, (4) Anxious, easily upset, (5) Open to new experiences, complex, (6) Reserved, quiet, (7) Sympathetic, warm, (8) Disorganised, careless, (9) Calm, emotionally stable and (10) Conventional, uncreative.

TIPI scale scoring ('R' denotes reverse-scored items): Extroversion: 1, 6R; Agreeableness: 2R, 7; Conscientiousness: 3, 8R; Emotional Stability: 4R, 9; Openness to Experiences: 5, 10R.

In order to construct the Big Five personality trait estimates, questions 2, 4, 6, 8 and 10 in the TIPI scale must be reverse coded. Thereafter, the two items (i.e. the standard item and the recoded reverse-scored item) that make up each of the five traits are summed. For example, with the openness to experience scale a respondent has a score of 5 ('agree a

little') on item 5 ('open to experiences, complex') and 2 ('disagree moderately') on item 10 ('conventional, uncreative'). Item 10 must be first reverse coded, and then both scores are summed; i.e. the openness scale score would be:  $5 + 6 = 11$ .<sup>41</sup>

It is important to note that the TIPI scale items will not have high levels of inter-correlation and will have low Cronbach's alpha coefficients and poor loadings with Exploratory or Confirmatory Factor Analysis (EFA or CFA) models. This is because only two items, located on opposite poles, are used to provide a general measure of broad aspects of personality. Here there is the assumption that the TIPI scale is a reasonably valid measure of the Big Five personality traits, and is sufficiently reliable to be useful.

### *9.5.1. The brevity versus validity trade-off*

There are only two questions per Big Five trait in the TIPI scale, and for this reason the TIPI scale cannot be expected to have the same level of internal reliability as larger Big Five personality trait scales such as BFI-44 or NEO-PI-R. This highlights a general point in measuring personality traits: there is a trade-off between internal reliability and brevity (Gerber et al. 2011b: 267). Within political attitudes and behaviour research there is always a practical emphasis on brevity in order to be able to ask as many questions as possible in an interview that can last maximally thirty or forty minutes. With the TIPI scale some concern has been expressed about the openness part of the scale, where it appears to capture an experiential aspect of openness rather than the more theoretically important intellectual facet (Blanchet 2015). Notwithstanding these limitations, four arguments may be put forward justifying the use of TIPI to operationalise the Big Five model of personality.

First, TIPI is designed on the basis of content and criterion validity, where the two items for each trait capture precisely the two poles defining a specific Big Five trait. The TIPI scale has been validated with larger Big Five personality trait scales (Furnham 2008). Second, the five trait scales constructed with two items each are based on a priori theoretical considerations, and should not be evaluated using inter-correlation and reliability statistics due to known reliability problems with small scales (note Kline 2000; Wood and Hampson 2005). Moreover, when a scale has high validity it makes little sense to use statistics that measure increases in validity. Here only the test-retest reliability statistic would be useful. Third, a comparison of the TIPI scale with the larger BFI-44 scale by Gerber et al. (2011: 280–282) found that both scales behaved similarly when used in parallel models of ideology, political interest and

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41 Alternatively, both scores are summed and a mean score estimated. Here the openness scale score would be:  $(5 + 6)/2 = 5.5$ . In this book, the TIPI scales are simply summed. Using sum and mean scores should not influence the substantive results reported.

turnout (unfortunately, as noted above, political knowledge was not examined). Fourth, the TIPI scale was implemented in the Canadian Election Study (2011) and the American National Election Study (2012) facilitating future comparative research.

## 9.6 Data and Determinants of Objective Political Knowledge

The survey data used in this chapter is the same as that described earlier in Chapter 6, i.e. a nationally representative (quota sample) survey undertaken by CVVM on November 6–12, 2012. A total of 1,267 face-to-face interviews were completed. About 5% of those interviewed ( $n=63$ ) refused to answer all of the key implicit knowledge questions and were excluded from the models reported below. Some comparison is also made with a national political attitudes survey (i.e. the Czech wave of the ISSP ‘citizenship module’) fielded in April–June 2014 ( $n=1,532$ ), using probability sampling, that also included a TIPI scale.

All models reported are based on an Ordinary Least Squares (OLS) estimator, and all dependent and independent variables have been rescaled 0–1 in order to facilitate comparison across different models. Details of all the survey questions and variables used to estimate the models reported are given in the appendix for this chapter.

In exploring the importance of personality traits for understanding individual differences in levels of factual or objective knowledge, the analyses will be presented in two steps. First, there will be a study of how well each of the Big Five personality traits on their own (with no other explanatory factors) helps to explain variations in level of factual knowledge. Second, the modelling will be extended to include the Motivation-Ability-Opportunity (MAO) factors tested in Chapter 7 plus the Big Five personality traits. The goal here is to see which personality traits are associated with differences in factual knowledge, and if these personality trait effects operate independently of the MAO explanatory framework used in earlier chapters.

In most past examinations of the nature and origins of political knowledge the role of individual personality traits was ignored, largely because questions about the respondents’ psychology were rarely asked in mass surveys. Nonetheless, there are strong reasons to suspect within the MAO explanatory modelling framework that personality traits do have an independent influence in explaining differences in factual political knowledge. For example, the relationship between education and political knowledge may be spurious. This is because personality traits might be the common factor that drives both success in school and having high levels of factual knowledge about politics. The implication here is that personality traits influence the decisions (1) to stay in school and (2) to acquire factual political knowledge, which indicates there is a potentially spurious relationship between education and objective political knowledge (Rasmussen 2016).

### *9.6.1 Personality trait origins of objective political knowledge*

An analysis of the personality traits for factual political knowledge for two surveys fielded in late 2012 and mid-2014 by different survey companies are presented in Figure 9.3. This graph reveals that Czechs in 2012 and 2014 who exhibited the traits of emotional stability and openness to experience tended on average to have higher levels of political knowledge. In contrast, extroversion and agreeableness had negative or no associations with level of knowledge. Figure 9.3 also shows that the model parameters for 2012 and 2014 are broadly similar (indicated by overlapping 95% confidence intervals) for agreeableness (both are negative) and emotional stability (both are positive). Extroversion has a significant negative association with knowledge in 2012, but this association declines to zero in 2014. With conscientiousness a strong positive parameter in 2012 declines once again to zero in 2014. In contrast, the openness effect increases considerably between 2012 and 2014.

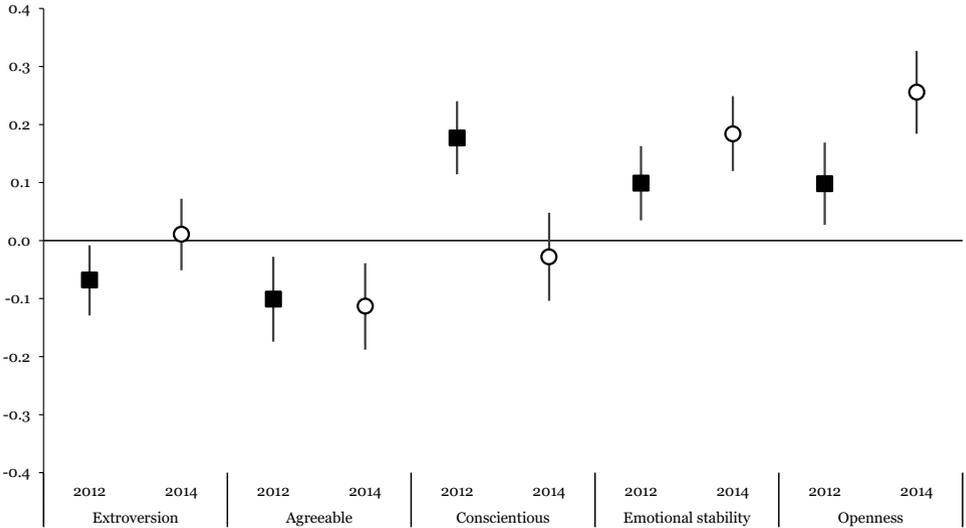
Some of the differences in parameter effects observed in Figure 9.3 are larger than one would expect from variation due to sampling. This suggests that the quota sampling used in the 2012 survey and the probability sampling in the 2014 poll may have led to the selection of samples with contrasting personality profiles: the 2014 probability sample had extended fieldwork where it proved difficult to recruit respondents around the European Elections of May 23–24 perhaps resulting in interviewees who were more conscientious, emotionally stable, and open (or curious) than was the case in late 2012 in the run-up to the first presidential elections where voters rather than parliament decided the outcome (there were two rounds of voting on January 11–12 and 25–26, 2013).

Overall, only some of the modelling results reported in Figure 9.3 match the expectations based on previous work presented earlier in Table 9.2, with the exception of conscientiousness. In previous studies, conscientiousness had a generally negative relationship with political knowledge; although Mondak (2010: 103, 164–169) had initially expected that this trait would have a positive association with knowledge on the basis that citizens with a sense of duty tend to be informed. In this study, positive conscientiousness parameters show that this trait is associated with greater knowledge, and Czech citizens' sense of duty incorporates both the private (family and work) and public spheres.

### *9.6.2 Comparative analysis of personality traits and political knowledge*

One of the concerns with the TIPI scale measurement of personality traits is that it exhibits variability both across time and countries. An examination of the personality trait determinants of factual political knowledge is presented in Table 9.2, where there are models for (a) two time points for the Czech Republic and (b) a three-country comparison between America, Canada, and the Czech Republic. The TIPI scale estimates for the

**Figure 9.3: Comparison of the personality trait determinants of objective political knowledge in the Czech Republic, 2012 and 2014**



Sources: CVVM survey, November 5–12, 2012, SC&C survey April 18 to June 15, 2014  
 Note that these parameter estimates in the graph on top are derived from models reported in the table beneath with the 95% confidence intervals for the OLS regression model unstandardised coefficients.

Czech Republic reveal, as noted above, the implementation of this scale does not always yield consistent results in the same country.

The cross-country comparison reveals that the personality trait results for the Canadian sample are different, as there are no significant ( $p < .05$ ) effects. There are at least two potential reasons why the Canadian results might be different. First, the Canadian questionnaire was fielded using the internet, while the Czech and American samples had (mainly) face-to-face interviews. Second, the sample size for the Canadian model is considerably smaller than the number of cases used in the Czech and American models; this may have had an impact on the parameter estimates.

Many of the results for the Czech Republic and the United States are substantively the same: positive effects for openness, conscientiousness, and emotional stability, with negative associations for extroversion and agreeableness. Table 9.2 also shows that when additional control variables are included into the American and Czech models conscientiousness and emotional stability retain positive significant effects, and

**Table 9.2: A comparison of the personality trait determinants of objective political knowledge in the Czech Republic, Canada and the United States**

<i>Big Five personality traits measured with the TIPI scale</i>	<i>Czech Republic</i>		<i>Canada</i>		<i>USA</i>			
	<i>2012</i>		<i>2014</i>		<i>2011</i>		<i>2012</i>	
	<i>B</i>	<i>p</i>	<i>B</i>	<i>p</i>	<i>B</i>	<i>p</i>	<i>B</i>	<i>p</i>
Openness to experience	.10	**	.26	***	-.09		.26	**
Conscientiousness	.18	***	-.03		.25		.60	**
Extroversion	-.07	**	.01		-.05		-.16	
Agreeableness	-.10	**	-.11	**	.07		-.32	**
Emotional stability	.10	**	.18	***	.30		.57	**
Intercept	.38	***	.27	***	2.11	***	1.93	***
Number of cases	1266		1531		731		5468	
R <sup>2</sup>	.06		.07		<.01		.17	

Sources: CVVM survey, November 5–12, 2012, SC&C (ISSP) survey April 18 to June 15 2014, Canadian Election Survey (CES, 2011), American National Election Survey (ANES, 2012)

\*  $p \leq .10$ , \*\*  $p \leq .05$ , \*\*\*  $p \leq .001$

Note that the OLS regression modelling results from Canadian and the US are reported in Blanchet (2015). In all models only personality traits are used as explanatory variables and all have been rescaled 01 to facilitate comparison. All personality traits were measured with the TIPI scale and models were estimated with OLS regression. The knowledge scale in Canada is a summated rating scale with 4 questions, and in the USA there were 6 items. The knowledge scales for the Czech Republic each had 6 items constructed using a 2PL IRT model rescaled to 0–1.

agreeableness has a negative effect. Additional control variables in the Canadian model results in a negative openness parameter suggesting that the more curious a person is the less political knowledge they know.

The main lessons from the cross-time and comparative analyses presented in Table 9.2 is that the TIPI scale can exhibit variation due to (a) the small size of the scale, (b) differences in sample sizes, and (c) the mode of interviewing. There may also be some national country, or culture, effects reflecting contrasting interpretations by the respondents of the ten TIPI scale items where individuals in some contexts may answer in systematically different ways. Future research should explore whether the TIPI scale is suitable for cross-time and international research. Currently, the larger Big Five scales with 40 or more questions, used in psychology, yield more stable results.

**Table 9.3: MAO and personality trait model of the determinants of objective political knowledge in the Czech Republic, 2012**

<i>Models and variables</i>	<i>Model 1</i>		<i>Model 2</i>		<i>Model 3</i>	
	<i>B</i>	<i>p</i>	<i>B</i>	<i>p</i>	<i>B</i>	<i>p</i>
<i>Personality traits</i>						
Openness to experience	<b>.10</b>	.006			-.01	.824
Conscientiousness	<b>.18</b>	<.001			<b>.05</b>	.081
Extroversion	<b>-.07</b>	.029			-.05	.114
Agreeableness	<b>-.10</b>	.006			<b>-.06</b>	.084
Emotional stability	<b>.10</b>	.002			<b>.08</b>	.008
<i>Motivation</i>						
Interest in politics			<b>.16</b>	<.001	<b>.16</b>	<.001
Party attachment			<.01	.843	<.01	.868
Who is in power makes a difference			<b>-.06</b>	.001	<b>-.06</b>	.001
External efficacy			<b>-.07</b>	.029	<b>-.07</b>	.037
Internal efficacy			-.04	.200	<b>-.03</b>	.232
Left-right scale (0–10)			.04	.180	.03	.211
Will vote in next election			<b>.05</b>	<.001	<b>.05</b>	<.001
<i>Ability</i>						
Education level			<b>.09</b>	<.001	<b>.08</b>	<.001
<i>Opportunity</i>						
Sex: female			<b>-.03</b>	.016	<b>-.02</b>	.095
Age (linear)			.15	.160	.11	.316
Age squared (nonlinear)			-.17	.167	-.14	.256
Income of household			.04	.156	.03	.177
Unemployed			-.03	.170	-.03	.160
Media use scale			<b>.07</b>	.014	<b>.07</b>	.029
Community size			-.01	.722	-.01	.742
Intercept	.38	<.001	.39	<.001	.39	<.001
<i>Model fit</i>						
F statistic	13.61		21.44		17.02	
Prob > F	<.001		<.001		<.001	

<i>Models and variables</i>	<i>Model 1</i>		<i>Model 2</i>		<i>Model 3</i>	
	<i>B</i>	<i>p</i>	<i>B</i>	<i>p</i>	<i>B</i>	<i>p</i>
R <sup>2</sup>	.05		.20		.21	
Root MSE	.21		.20		.20	
ll(null)	119		119		119	
ll(model)	150		255		262	
AIC	289		479		481	
BIC	258		397		375	

Source: CVVM survey, November 5–12, 2012, n=1203

Note that the dependent variable is level of knowledge scale which is estimated with a 2PL IRT model. An OLS estimator was used to estimate model parameters, where all variables have a range of 0–1. Unstandardised coefficients are reported and may be used to compare across the three models reported. Model 1 parameters were presented earlier in this chapter in Figure 9.3.

### *9.6.3 MAO and personality trait origins of objective political knowledge*

It is critical to test whether personality traits remain an important explanation of individual differences in factual political knowledge once other factors are taken into account. The results of modelling the determinants of factual knowledge with both the Big Five personality traits and the Motivation-Ability-Opportunity (MAO) explanatory framework for Czech respondents are shown in Table 9.3. Three models are presented. Model 1 shows the results for personality traits alone; model 2 shows the results for the MAO variables; and model 3 reveals the parameter estimates for both the Big Five traits and the MAO variables.

The results for model 1 show that higher levels of objective or factual knowledge is positively associated with openness, conscientiousness, and emotional stability, and is negatively linked with extroversion and agreeableness traits. All personality traits are statistically significant ( $p < .05$ ). These results match some of the findings from the psychological research on general (factual) knowledge outlined above in Section 9.3. There are also some similarities with previous work in political science. For example, the positive parameter for openness and the negative one for being agreeable. In short, the results presented in model 1 fit with previous research. However, the negative relationship between objective knowledge and conscientiousness reported by Mondak (2010) for American respondents is not found with the Czech data: in fact, a strong positive relationship is observed.

With the model 2 results for the MAO explanatory framework most of the variables show associations that are consistent with the results

reported in earlier chapters. The negative coefficients for ‘government in power makes a big difference’ and ‘external political efficacy’ are puzzling. This may be evidence of Czech voters’ (a) disenchantment with electoral politics and (b) their perceived ability to influence political decision-making. In other words, the more factually informed citizens were more disenchanted. Additional modelling results, not reported in Table 9.3, reveal that having a right-wing orientation (7 to 10 on the 11-point scale) exhibits a positive link with higher factual knowledge. For left-wing and centrist voters there is no strong association. This right-wing effect is likely to be linked with a person’s resources, i.e. having more time, money, and opportunities to become informed about public affairs – a theme explored earlier in Chapter 7.

Finally, Model 3 on the far right of Table 9.3 shows that three of the Big Five personality traits have statistically significant effects ( $p \leq .10$ ) in explaining differences in level of factual knowledge. Here conscientiousness and emotional stability have positive values, while agreeableness has a negative one. Otherwise, the MAO model is practically identical to that reported for model 2. It was noted earlier that there might be a spurious relationship between education and objective knowledge because personality traits might be a common cause. The results from model 3 indicate that this is probably not the case. This is because the power of the education variable is little affected by the introduction of all Big Five personality trait variables.

The model fit statistics reported at the bottom of Table 9.3 indicate the explanatory power of personality traits when compared to the MAO variables is much less (i.e. 5% versus 21%). Nonetheless, the fact that the Big Five personality traits contribute something to explaining the variation in objective knowledge between individuals is important.

The modelling results shown in Table 9.3 suggest two main lessons. First, being factually informed is connected with being a responsible and reliable citizen, and is less rooted in (a) being curious about the world (openness), (b) being a talkative social animal (agreeable), and (c) being opinionated and gregarious (extrovert). In fact, openness, agreeableness and extroversion have negative coefficients, but these effects are not especially strong ( $p \leq .05$ ). Second, individual differences in objective knowledge are shaped by motivation, ability and opportunity effects. However, being disenchanted also matters as a form of negative motivation or alienation that spurs action.

## Conclusion

Most explanations of political knowledge assume that it is primarily social and political environments that determine who is informed about public affairs. An alternative perspective contends that individual-level factors such as long-standing predispositions like personality traits are also important. This line of thinking, which focuses on individual per-

sonality traits, is important because it highlights two things: (a) the origins of political knowledge comes prior to motivation and opportunities to obtain political news and (b) personality traits have important direct and mediating effects on political knowledge. This facilitates moving beyond a Motivation-Ability-Opportunity (MAO) account of political knowledge.

Almost four decades ago, Paul M. Sniderman (1975), in one of the early studies of personality and political knowledge, argued that although there was general agreement on the key question, 'How does personality affect political belief?', there were disagreements over what constituted an answer to this question. Sniderman focussed his research on 'self-esteem' rather than the Big Five personality traits. He found that high self-esteem was positively linked with social learning and greater political knowledge. However, there was criticism of how he operationalised his causal models.

In the following three decades relatively little research was done on the link between personality and politics, and almost none on the personality foundations of political knowledge until Jeffrey Mondak's (2010) book-length study. More recent research by Rasmussen (2016) has reported that openness and emotional stability (in addition to intelligence, measured as IQ) are the strongest predictors of objective political knowledge. In short, personality traits matter for understanding the nature and origins of political knowledge.

The research presented in this chapter contributes to this 'new wave' of research into (1) the importance of personality traits for political attitudes and behaviour, and (2) the link between Big Five traits and political knowledge and learning. Here the Czech Republic is used as a case-study. Currently, there are contrasting modelling results indicating that there may be some methodological issues regarding the implementation of Big Five personality trait scales in mass surveys using a relatively small number of questions.

In this study, the Ten Item Personality Inventory (TIPI) scale has been used because of its small size and apparent success in previous research in measuring personality traits. This chapter has shown that personality traits are important for the study of political knowledge. This is because traits are general inclinations and dispositions, which have both direct effects and are expected to have interactive (moderating) effects on some of the motivational, ability and opportunity (MAO) determinants of political knowledge. However, as will be discussed in the next chapter, not all personality traits are equally likely to exhibit interaction effects.

The central finding of this chapter is that personality traits do explain differences in level of factual political knowledge. Specifically, conscientiousness and emotional stability promote greater knowledge, and being agreeable reduces it. This result contrasts with research by Mondak (2010) and others from the United States who reported that conscientiousness has a negative association with knowledge. Finally, emotion-

al stability appears to have a positive effect among Czech respondents, while its impact in the United States is indeterminate. This suggests, at least in the Czech case, that individuals who are positive, confident, and who have a steady temperament tend to be more informed.

Quite clearly, more research is required to come to more definitive conclusions. A step in this direction will be made in the next chapter where the relationship between the Big Five personality traits and three facets of political knowledge (objective, implicit and interpersonal) will be examined using (a) the MAO explanatory framework and (b) insights from the cognitive 'styles of thinking' literature.

# Chapter 10: Objective, Implicit and Interpersonal Political Knowledge and Personality Traits

We expect that individuals high in openness to experience will be relatively interested in and attentive to politics. More specifically, the curiosity and perceptiveness of individuals high in openness to experience should position them well to score high on indicators of political knowledge and opinionation, and also to engender a willingness to participate in political discussion [...] Strong, consistent links between personality and politics have been identified for many of the most familiar variables in the study of mass politics, including partisanship, ideology, presidential approval, internal efficacy, trust, participation in local politics, political discussion, opinionation and political knowledge.

Mondak and Halperin (2008: 342, 360)

## Introduction

In the previous chapter it was found that personality traits are linked with individuals having low and high levels of objective or factual political knowledge. Chapter 9 also showed that in a combined MAO and personality traits model three Big Five traits, i.e. conscientiousness, agreeableness, and emotional stability, remain important explanations of objective knowledge. The goal of this chapter is to extend the analyses presented in Chapters 7 and 9 in three ways.

First, this chapter will enhance the explanatory framework through inclusion of ‘style of thinking’ variables as determinants of political knowledge. The insight here is that how a person thinks is important for understanding their motivation to gather political knowledge. A person that is closed-minded may believe that they already know enough to understand political decisions, and do not need to learn more details about public affairs. Here one may identify two broad types of expert. Firstly, there are experts who focus most of their knowledge on a particular topic perhaps viewing the world in terms of a specific theory or ideology. Secondly, other experts may prefer to develop a broader general, or encyclopedic, knowledge and consider competing explanations before offering advice and making choices.

Second, additional facets of political knowledge considered will be broadened. Earlier in Chapter 7 there was a comparative examination of objective, implicit, and interpersonal knowledge, using the MAO explanatory framework. Here these three facets of political knowledge are examined in terms of the Big Five personality traits, the MAO model, and style of thinking. This work is important for exploring if different

facets of political knowledge have contrasting origins and testing the idea that all political knowledge has common foundations.

Third, this chapter will explore the idea that individual personality traits have important interaction (moderating) effects. For example, it was noted earlier that the relationship between education and factual political knowledge may be spurious because personality traits may be a common cause determining both level of schooling and objective political knowledge (note Rasmussen 2016: 1040). In other words, the interaction effects of personality traits may be as important as their direct influence. In this respect, Mondak (2010: 110) made the following prediction:

My belief is that applications of this latter form [interaction effects with personality traits] hold the greatest promise of generating dramatic breakthroughs in our understanding of the foundations of political behaviour. The opportunities in this area are seemingly limitless [...]

This opportunity also raises some concerns. This is because the number of potential mediating, moderating and conditioning interactions with each of the Big Five personality traits is large. Moreover, there is little theory to narrow down the number of interactions to be examined.

Within this chapter the interaction effects presented are exploratory, especially with regard to implicit and interpersonal knowledge. Earlier in the introduction chapter interpersonal knowledge was described as the reputation that a person has for being informed. In this chapter, this form of knowledge is measured using interviewers' evaluations of the knowledge of respondents following an interview.

This chapter will also build on the work presented in Chapters 5 and 6 (dealing with objective, subjective and implicit political knowledge respectively) by showing that objective and interpersonal knowledge have very similar personality trait determinants with (a) openness, conscientiousness, and emotional stability playing a positive role, and (b) extroversion and agreeableness having a negative one. Implicit knowledge is different. Here only extroversion has a strong positive impact. Extroversion operates differently for objective and interpersonal versus implicit knowledge where this personality trait has a positive association with implicit knowledge, but a negative one with the other two types.

More detailed analysis with a broader range of exploratory factors reveals that each of the three facets of political knowledge has contrasting origins and natures. Objective and interpersonal knowledge have a number of common determinants; however, the factors explaining variations in implicit knowledge are unique as they are based on extroversion, being closed-minded, having lower levels of schooling, and residing in larger urban centres.

This chapter also reveals that personality traits also have important indirect effects on objective, implicit, and interpersonal knowledge. For example, greater conscientiousness overcomes low interest in politics to

motivate a person to have higher levels of objective knowledge; however, conscientiousness has the opposite effect for those with a high interest in politics.

The argument in this chapter starts in Section 1 with an introduction to the importance of contrasting cognitive styles of thinking for understanding differences in level of political knowledge. Section 2 presents some ideas regarding the links between the Big Five personality traits and objective, implicit, and interpersonal knowledge. This represents an extension of the work presented earlier in Chapter 9. Section 3 briefly discusses the Motivation-Ability-Opportunity (MAO) determinants of the three facets of political knowledge, and is an extension of work presented earlier in Chapter 7. In Section 4 there is a presentation of the direct modelling results, and this is followed in the penultimate section by an exploratory study of the indirect effects of personality traits on objective, implicit and interpersonal knowledge. In the final section, there are some concluding comments and suggestions for further research.

## 10.1 Style of Thinking and Political Knowledge

Most studies of factual or objective political knowledge focus on citizens who generally have low levels of knowledge. An important question here is if being more informed about the details of politics is useful in making better decisions? In other words, how people think may just as important as what they know. One important study by Philip E. Tetlock (2005) examined if high levels of political knowledge was associated with an ability to predict future political events. The central finding of Tetlock's (2005) study is that political experts are poor forecasters. In fact, experts' predictive success is no better than that of ordinary citizens with strong general knowledge.

A key lesson from this research agenda conducted over two decades is there is an important difference between (a) political knowledge and (b) good judgement. Almond and Verba (1963: 57–58) stressed this point when arguing that factual knowledge scores in surveys are important; however, 'These are simple measures of quantity of a certain kind of information. They tap only a limited aspect of the dimension of knowledge, and they tell us nothing about the capacity to use knowledge intelligently.' Here individuals' style of thinking is important. Keith E. Stanovich (1993, 1994, 2009) makes a similar point by arguing with his concept of 'dysrationalia' that intelligence, which is a key determinant of political knowledge, and rational thinking are distinct things that often do not coincide, resulting in 'clever but clueless' citizens and vice versa.

Tetlock (2005) argues that within political life two broad types of cognitive reasoning are evident: accumulating specialist knowledge and becoming an expert or become a generalist with a wide range of knowledge about many topics. This broad division is also linked to ideological (hedgehogs) and pragmatic (foxes) styles of thinking. According to Tet-

lock, experts tend to adhere to a unifying view of the world that follows some theoretical logic, while in contrast generalists tend to make decisions on a case-by-case basis. The impact of variation in cognitive styles will be examined in this chapter in two ways.

### *10.1.1 Need for cognitive closure*

In this chapter, motivated social cognition will be explored using a shortened and revised version of Kruglanski and Webster's (1996) 'need for cognitive closure' scale. In this cognitive psychology approach to human thinking, decisions are examined in a cost/benefit way where the benefits of decisiveness are weighted against the cognitive energy expended in exploring many different options. Need for closure has been shown to predict a wide range of cognitive processes such as social learning, and it makes sense to think it also determines level of political knowledge, although there is little research on this topic.

In this book, it is expected that high levels of political knowledge (in all its forms) will be positively related to a high score on the cognitive closure scale. This is because cognitive closure reflects a propensity to be opinionated, and level of opinionation is known from previous research to be strongly correlated with knowledge (Mondak and Halperin 2008; Mondak 2010). In addition, having a conservative ideological orientation is also positively correlated with cognitive closure. In this respect, Jost et al. (2003) report that being conservative motivates individuals to seek knowledge to justify their firm views.

In this chapter the need for cognitive closure scale will be presented in a 'reverse format', i.e. reverse coded to form an open-mindedness scale. This is because it is more convenient in the discussion here to talk in a positive way about the effect of open-mindedness. Kruglanski and Webster's need for cognitive closure scale (1996) has limited internal validity with the Czech sample (Cronbach's  $\alpha=.52$ ); however, it is used here because this scale, despite its empirical shortcomings, has an important theoretical meaning for understanding the determinants of different facets of political knowledge.

### *10.1.2 Style of thinking: specialist or generalist*

Tetlock's (2005) influential work on ideological versus pragmatic thinking suggests that contrasting approaches to making decisions, and hence searching for and using political information should be linked with different types of political knowledge. Tetlock used the labels 'fox' and 'hedgehog' to refer to contrasting styles of thinking, where the former refers to an approach that is particular in nature and focussed on details, and the latter is general and based on a universal logic or set of key principles. In this study, three items taken from Tetlock's (2005: 72–75, 241) study of experts are used to examine the degree to which

Czech respondents (a) think the social and political world is inherently simple [hedgehog] rather than being inherently complex [fox], and (b) make decisions on a case-by-case [fox] basis rather than using a single worldview [hedgehog].

The expectation here is that individuals with the hedgehog orientation will have higher levels of objective (or factual) and interpersonal knowledge. As the battery of factual political knowledge items is general in nature, it is likely that those respondents who exhibit fox-like characteristics will also have positive associations with objective and interpersonal knowledge.

## 10.2 Personality Traits and Difference Facets of Political Knowledge

Earlier in Chapter 9 there was an overview of how the Big Five personality traits are linked with objective political knowledge. The literature review presented in Chapter 9 described how current research on the association between specific traits and objective knowledge has some inconsistent results as shown in Figure 10.1. This inconsistency stems in part from (a) how factual political knowledge is measured in terms of the types of quiz questions used, etc., (b) how personality traits are measured, where, for example, if the small TIPI or a larger Big Five scale is used, and (c) what other explanatory variables are included in the models estimated.

Notwithstanding these concerns, the empirical results for a nationally representative Czech survey sample fielded in November 2012 (presented earlier in Chapter 9) showed that conscientiousness and emotional stability were the most important personality traits for explaining differences in objective knowledge among Czech adults. To recap a little on the material presented earlier in Chapter 9, Figure 10.1 presents an overview of previous research and indicates which traits are connected in a positive or negative way with factual political knowledge.

Figure 10.1 reveals, on the basis of American data, that openness, which reflects a person's degree of intellectual curiosity, creativity, and a preference for novelty and variety, is the only trait with a consistent positive association with objective knowledge. Analysis of the Czech survey data from 2012 replicates this finding only when personality traits are included in the regression. However, the addition of the MAO explanatory variables results in this positive relationship disappearing. Figure 10.1 also shows that conscientiousness, agreeableness and extroversion had a negative association with objective knowledge for research undertaken in the United States. This contrasts with the significant ( $p \leq .05$ ) positive links found in the Czech data (2012) reported earlier in Chapter 9. Finally, in the American context, emotional stability (i.e. being less susceptible to negative emotions such as anxiety) had an inconsistent relationship with factual knowledge (although on balance there appears

**Figure 10.1: Impact of the Big Five personality traits on objective and interpersonal political knowledge**

<i>Personality traits</i>	<i>Studies</i>	<i>Effects</i>	<i>Notes</i>
Openness to experience	MH04	P****	Having a curious and open-minded personality motivates a person to be engaged in politics, seek political information and express opinions
	MH05	P****	
	M06	P****	
	G08	P****	
	MIP98	P**	
	HR10	P**	
	HR12	P*	
	XD	P**	
	XA	N	
	Conscientious	MH04	
MH05		N**	
M06		N*	
G08		N	
MIP98		N****	
HR10		P**	
HR12		P#	
XD		P****	
XA		P*	
Extroversion		MH04	N#
	MH05	N*	
	M06	P	
	G08	N	
	MIP98	N	
	HR10	N#	
	HR12	N*	
	XD	N****	
	XA	N	
	Agreeable	MH04	N
MH05		N	
M06		N#	
G08		N	
MIP		N	
HR10		P	
HR12		P	
XD		N****	
XA		N*	

<i>Personality traits</i>	<i>Studies</i>	<i>Effects</i>	<i>Notes</i>
Emotional	MH04	N*	People who have an stable emotional personality tend not be strongly opinionated; and hence are less motivated to seek political information & knowledge
Stability†	MH05	P	
	M06	N	
	G08	p***	
	MIP98	N#	
	HR10	P*	
	HR12	P#	
	XD	P**	
	XA	P*	

\*\*\*  $p \leq .001$ , \*\*  $p \leq .010$ , \*  $p \leq .05$ , #  $p \leq .10$

Sources: derived from Mondak and Halperin (2008: 359), Mondak (2010: 99–104), Gerber et al. (2011a), Gerber et al. (2011b: 270), and Rasmussen (2016). Note that all of the parameters refer to objective or factual political knowledge, except for MIP which refers to interpersonal political knowledge, i.e. interviewers' evaluations of respondents' level of information about politics and public affairs. Note a positive relationship is indicated by 'P' and a negative one by 'N' and level of statistical significance is denoted by the stars (\*) and hash tag (#). MH04: Mondak and Halperin (2008): study 1, Community Survey 2004 (n=807); MH05: Mondak and Halperin (2008): study 2, National Jury Survey 2005 (n=1312); G08: Gerber et al. (2011): Cooperative Campaign Analysis Project 2008 (n=12,472); MIP98: Mondak (2010): Community Survey 1998 (n=404). HR10: a representative sample from an internet panel, May–June 2010 (n=3612); HR12: a sample of males aged 18 eligible for military service in the Danish army, postal survey with a response rate of 28% (n=1072). The modelling results reported later in Table 10.1 are summarised in the italicised rows XD (parameters for personality traits only model) and XA (personality traits plus other explanatory variables).

to be a positive relationship in most studies). With the Czech sample the relationship between emotional stability and objective knowledge is consistently positive ( $p \leq .05$ ).

With regard to implicit and interpersonal facets of knowledge there is little or no extant research in psychology or political science. The expectation, based on the evidence presented in Chapter 9, is that the personality traits linked with objective knowledge, i.e. conscientiousness and emotional stability, in the Czech data (2012) may also be associated with interpersonal knowledge. This is because objective and interpersonal knowledge are correlated ( $r = .38$ ,  $p \leq .001$ ). The Big Five personality trait origins of implicit political knowledge are currently unknown, and the results presented in this chapter are exploratory.

### 10.3 MAO and Three Facets of Political Knowledge

Earlier chapters have outlined how and why the Motivation-Ability-Opportunity (MAO) explanatory framework helps to explain individual differences in political knowledge. The MAO framework will be used in this chapter in a comparative manner as in earlier chapters when examining survey response effects, subjective, objective, implicit and interpersonal knowledge. Here the goal is to explore in a comparative way how a standard set of explanatory variables help explain three facets of political knowledge, where the focus is on (1) personality traits and (2) their potentially interactive effects.

To briefly recap. Previous research has shown that variation in levels of factual knowledge among citizens may be explained in terms of three key things. First, a person must have the ‘motivation’ to seek out political information in the media, through social networks, attendance at public events, etc. Second, the ‘ability’ to think about and understand political facts that are sometimes complicated in nature is also crucial. Finally, the ‘opportunity’ to be exposed to political information through the media, family, friends, work colleagues, and broader social networks is also critically important (Luskin 1990; Delli Carpini and Keeter 1996: 190; Nie et al. 1996).

As noted earlier in the Introduction chapter, these three causal factors, Motivation, Ability and Opportunity (MAO), are not always operationalised in the same manner in empirical studies of political knowledge. Motivation typically includes variables that measure interest in politics, ideology, efficacy, and voting in elections: all indicators that show how much enthusiasm a person has for politics. Ability is theorised to refer to intelligence; however, as IQ tests are rarely part of mass surveys most researchers use level of education as a proxy measure for intelligence. There is a strong positive correlation between education and intelligence because being clever makes success in school easier; however, this linkage is neither perfect nor simple in nature (Deary and Johnson 2010).

One issue here is that education and intelligence can have independent effects on political knowledge (Rasmussen 2016). It could be that education is better viewed as an ‘opportunity’ or perhaps ‘resource’ effect: a topic explored earlier in Chapter 9. In any case, in the absence of an intelligence measure, level of education will be used in this chapter as an indicator of cognitive ability. Opportunity effects for political knowledge are most often operationalised in terms of sex, age, income, employment, media use, and prospects for learning about politics from family, friends and neighbours.

### 10.4 Direct Impact of Personality Traits on Political Knowledge

The survey data used in this chapter are the same as in Chapters 6 and 9 and are from a nationally representative quota sample survey fielded between November 6 and 12, 2012 in face-to-face interviews with 1,267

adults. A small number of respondents ( $n=63$ ) refused to answer the implicit knowledge questions and were excluded from all models estimated. As in previous chapters, all modelling results reported are based on an Ordinary Least Squares (OLS) estimator where all dependent and independent variables have been rescaled 0–1 in order to facilitate comparison across different models.

An initial analysis of the personality trait basis of all forms of political knowledge, reported in the bottom part of Figure 10.2, reveals that for objective (factual) and interpersonal political knowledge individuals who describe themselves as having the personality traits of openness, conscientiousness, and emotional stability have higher levels of knowledge. In contrast, extroversion and agreeableness have negative associations. Implicit political knowledge is different as extroversion is the only trait with significant positive effects ( $p \leq .05$ ). A visual representation of the model parameters shown in the top part of Figure 10.2 demonstrates that the personality basis for implicit knowledge is quite limited where only extroversion reveals effects that are different from zero. Otherwise the patterns for objective and interpersonal knowledge are similar with the exception of emotional stability.

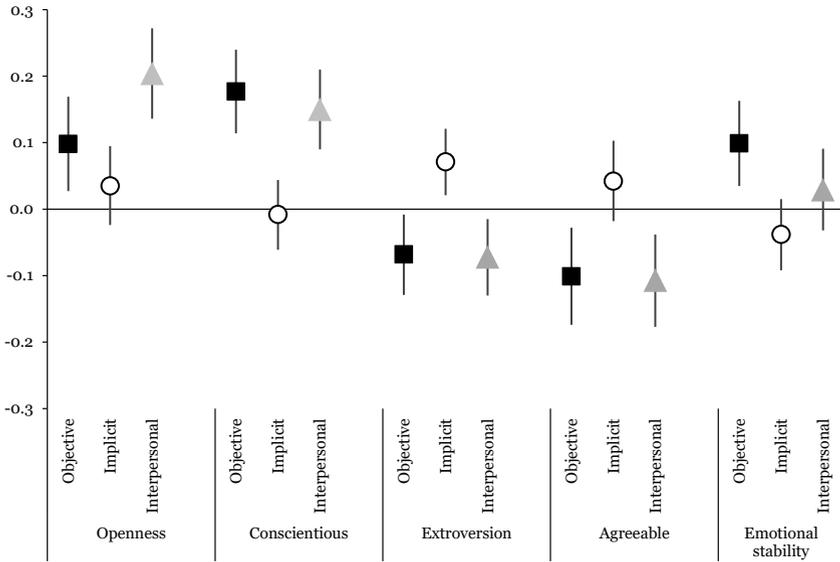
Overall, the modelling results reported in Figure 10.2 match the expectations based on previous work presented in Figure 10.1 with the exception of conscientiousness. In previous studies, conscientiousness had a generally negative relationship with political knowledge, although Mondak (2010: 103, 164–169) had initially expected that this trait would have a positive association with knowledge on the basis that citizens with a sense of duty tend to be informed. In this study, positive conscientiousness parameters indicated that conscientiousness promotes greater knowledge, and Czech citizens' sense of duty incorporates both the private (family and work) and public spheres.

The parameters presented further down in Figure 10.2 show that individual differences in style of cognitive reasoning has the most impact on level of factual political knowledge. As expected, need for cognitive closure (or being motivated to have firm opinions about public issues) is positively related to all three forms of political knowledge, but has strongest effects for objective and implicit knowledge. It seems that being opinionated in survey interviews does not lead to a more knowledgeable evaluation from interviewers. Tetlock's (2005) styles of thinking (i.e. fox and hedgehog) items have most explanatory power with factual (objective) political knowledge. Pragmatism and tolerance of ambiguity, typically associated with having a 'fox' style of thinking, is positively linked with higher levels of factual knowledge.

#### *10.4.1 Overall modelling results*

The OLS regression modelling results presented in Table 10.1 show that different personality traits have significant effects ( $p \leq .10$ ) on the three

**Figure 10.2: A comparison of personality trait parameters for objective, implicit and interpersonal political knowledge**



<i>Variables</i>	<i>Objective</i>		<i>Implicit</i>		<i>Interpersonal</i>	
	<i>B</i>	<i>Sig.</i>	<i>B</i>	<i>Sig.</i>	<i>B</i>	<i>Sig.</i>
Intercept	.38	≤.001	.45	≤.001	.36	≤.001
Openness to experience	<b>.10</b>	.007	.04	.240	<b>.20</b>	≤.001
Conscientiousness	<b>.18</b>	≤.001	-.01	.750	<b>.15</b>	≤.001
Extroversion	<b>-.07</b>	.027	<b>.07</b>	.005	<b>-.07</b>	.014
Agreeableness	<b>-.10</b>	.007	.04	.170	<b>-.11</b>	.003
Emotional stability†	<b>.10</b>	.003	-.04	.160	.03	.350
Adjusted R <sup>2</sup>	.05		.01		.06	
F (5, 1202)	13.06		2.83		16.49	

Source: CVVM survey, November 5–12, 2012, n=1203

Note that these parameter estimates in the graph on top are derived from models reported in the table beneath with the 95% confidence intervals for the OLS regression model unstandardised coefficients.

† Emotional stability is also known as the converse of neuroticism.

facets of knowledge examined. This table shows that openness has a significant positive impact on interpersonal knowledge, and extroversion is positively linked with implicit knowledge. Emotional stability has a positive effect and agreeableness a negative impact on objective knowledge. These results show that the different facets of political knowledge have diverse origins within individuals' personalities. These results also imply that different types of people, in psychological terms, are predisposed to have higher levels of contrasting forms of political knowledge.

Turning now to the set of questions dealing with style of thinking, the modelling results shown in the middle of Table 10.1 reveal that this cognitive factor best helps to explain differences in factual political knowledge. Here all of the four questions asked have significant ( $p \leq .05$ ) positive effects suggesting that open-minded individuals with a fox-like style of thinking are the most factually informed. In contrast, implicit knowledge is only significantly ( $p \leq .05$ ) positively connected with being open-minded, and thinking politics is predictable has a significant positive relationship with interpersonal knowledge.

With regard to the MAO explanatory framework, motivation effects operate similarly for objective and interpersonal knowledge, but have no statistically significant associations ( $p \leq .05$ ) with implicit knowledge. These comparative results are important in underscoring implicit knowledge has pre-cognitive foundations where motivation effects are not important. This fits with the Polanyi theory of implicit (or tacit) knowledge discussed earlier in Chapter 6.

The motivation effects for objective and implicit knowledge while similar are not identical. This underscores the view that these are different facets of political knowledge. For example, those with higher levels of objective knowledge have a significantly ( $p \leq .05$ ) lower sense of external efficacy. In contrast, those with greater levels of interpersonal knowledge have significantly lower levels of internal efficacy. At first sight this pattern does not match with expectations. This is because being informed normally implies feeling empowered to influence politics, and having a reputation for being knowledgeable about politics is based on having a personal sense of understanding politics.

But the pattern observed in Table 10.1 makes more sense if account is taken of the fact that in late 2012 many well-informed Czechs were dissatisfied with politics, and felt they had little control over elected politicians (external efficacy) in the former case. In the latter case, greater interpersonal knowledge is associated with a certain modesty (rather than low internal efficacy) during the interview about not thinking they would be good politicians, understand the country's problems or they are qualified to participate in politics.

The contrasting effect of ability (operationalised in terms of level of education) on the three facets of political knowledge replicates the modelling results presented earlier in Chapter 6. Table 10.1 reveals that level

**Table 10.1: A comparison of models of the determinants of objective, implicit and interpersonal political knowledge**

<i>Models and variables</i>	<i>Objective</i>		<i>Implicit</i>		<i>Interpersonal</i>	
	<i>B</i>	<i>Sig.</i>	<i>B</i>	<i>Sig.</i>	<i>B</i>	<i>Sig.</i>
<i>Personality traits</i>						
Openness to experience	-.02	.515	.03	.318	<b>.08</b>	.016
Conscientiousness	.05	.114	-.02	.474	≤.01	.968
Extroversion	-.04	.145	<b>.06</b>	.032	-.03	.187
Agreeableness	<b>-.07</b>	.061	.05	.159	-.03	.345
Emotional stability	<b>.07</b>	.021	-.04	.134	-.01	.852
<i>Style of thinking</i>						
Open-minded scale	<b>.06</b>	.009	<b>.05</b>	.015	≤.01	.953
Believe the world is complex	<b>.03</b>	.035	-.01	.199	≤.01	.800
Believe politics is predictable	<b>.05</b>	≤.001	.01	.722	<b>.02</b>	.088
Pragmatic decision-making style	<b>.06</b>	.028	.03	.129	≤.01	.836
<i>Motivation</i>						
Interest in politics	<b>.16</b>	≤.001	-.02	.357	<b>.23</b>	≤.001
Party attachment	<.01	.800	.01	.446	<b>.04</b>	.001
Who in power makes a difference	<b>-.05</b>	.006	.02	.181	-.01	.440
External efficacy scale	<b>-.06</b>	.051	-.02	.468	.01	.654
Internal efficacy scale	-.02	.456	.01	.821	<b>-.14</b>	≤.001
Left-right scale (0–10)	.03	.233	.03	.208	<b>.06</b>	.012
Will vote in next election	<b>.05</b>	≤.001	≤.01	1.000	<b>.02</b>	.044
<i>Ability</i>						
Education level	<b>.08</b>	≤.001	<b>-.04</b>	.046	<b>.11</b>	≤.001
<i>Opportunity</i>						
Sex: female	<b>-.02</b>	.057	.01	.621	<b>-.03</b>	.017
Age (linear)	.09	.399	.09	.330	<b>.27</b>	.002
Age squared (nonlinear)	-.11	.341	-.14	.207	<b>-.27</b>	.008
Income of household	.03	.195	.03	.233	.03	.213
Unemployed	-.03	.160	-.01	.521	-.03	.190
Media use scale	<b>.06</b>	.027	.02	.538	<b>.09</b>	≤.001
Community size	-.01	.769	<b>.04</b>	.029	-.01	.413
Intercept	.33	≤.001	.37	≤.001	.32	≤.001

<i>Models and variables</i>	<i>Objective</i>		<i>Implicit</i>		<i>Interpersonal</i>	
	<i>B</i>	<i>Sig.</i>	<i>B</i>	<i>Sig.</i>	<i>B</i>	<i>Sig.</i>
<i>Model fit</i>						
Adjusted R <sup>2</sup>	.22		.02		.36	
F (24, 1202)	14.72		1.82		29.32	
LR (24), p<.001	316		44		563	
AIC	503		734		849	
BIC	375		606		722	

Source: CVVM survey, November 5–12, 2012, n=1203

\* p≤.10, \*\* p≤.05, \*\*\* p≤.001. Note that these models exclude respondents (n=63 or 5% of the sample) who refused to answer any of the ten ballot photo evaluation items. OLS is used to estimate model parameters. All variables have a range of 0–1 where the unstandardised coefficients reported may be used to compare across the three models reported. The open-minded scale is the Kruglanski and Webster's (1996) closed-minded scale reversed.

of education had strong and positive effects on objective and interpersonal knowledge, and a negative association with implicit knowledge. As noted in Chapter 6 this differential pattern may be interpreted as showing that implicit knowledge is a skill most often used, and hence most developed, in those who make choices on the basis of intuition rather than facts or having a reputation for being informed.

Finally, the opportunity model shows a gender difference (with women having less political knowledge) and media use effect for objective and interpersonal knowledge, but not for implicit knowledge. The only strong effect for implicit knowledge is community size where individuals living in larger urban areas were more likely to have this form of knowledge. Interpersonal knowledge is unique in being influenced by age where older citizens are considered to be more informed (by the interviewer); however, this effect disappeared in very old age as the non-linear age parameter reveals.

In sum, the models presented in Table 10.1 show that personality traits, style of thinking, and Motivation-Ability-Opportunity (MAO) effects are important for understanding the origins and nature of objective, implicit and interpersonal knowledge. The differential impact of these four explanatory models on the three facets of knowledge examined in Table 10.1 in a comparative manner supports the view that (1) objective, implicit and interpersonal knowledge are different, and (2) these forms of political knowledge should not be automatically considered indicators of a general 'political knowledge' skill, resource, or ability.

## 10.5 Interactive Effects of Personality Traits on Political Knowledge

In the previous section all models showed significant direct personality trait effects. Previous research reported that individuals possessing an ‘open to experience’ personality trait have more factual knowledge (Mondak and Halperin 2008; Mondak 2010; Gerber et al. 2011a-b). Here no such direct positive effects are observed when more detailed models have been estimated as shown earlier in Table 10.1. It is important here to consider the possibility that personality traits such as openness may have important interaction effects. Jeffrey Mondak has highlighted the importance of interaction effects where personality traits may have interactive influences with (1) other personality traits, (2) attitudes, and (3) position in society or socio-demographic variables (Mondak and Halperin 2008: 339; Mondak 2010: 110–121).

For example, recent research has found with a young cohort panel sample in Sweden that political talk promotes non-electoral participation when young adults (aged 22 to 26 years) think their friends are politically engaged, and this effect has the most impact on individuals with an agreeable personality trait (Russo and Amnå 2016). Specifically, the three-way interaction of (a) political talk, (b) friends’ activism, and (c) agreeableness promote political participation. Each of these three factors, individually, has no significant effect ( $p < .05$ ) on non-electoral participation. In sum, the real importance of personality traits on political knowledge may be their mediation, moderation, or conditioning effects, a point stressed earlier in Section 7.5.3 of Chapter 7 (note Hayes 2013).

The modelling results presented earlier in Table 10.1 showed that factual political knowledge is the only model to exhibit multiple personality trait effects: emotional stability has a positive association with knowledge, and agreeableness a negative relationship. Mondak (2010: 111–112) explored the combined effects of openness to experience (positive) and conscientiousness (negative) on factual knowledge in America. He found that those high in openness and low in conscientiousness have higher levels of factual knowledge. This particular interaction (moderation) effect is not observed with the Czech data. This difference may be related to the fact that the openness trait is not a strong direct predictor of factual political knowledge.

The key point here is that specific combinations of personality traits (and also other factors) are associated with higher levels of political knowledge, and it is important to explore some of these interaction effects.

### *10.5.1 Combinations of personality traits and objective knowledge*

It is important to reiterate a point made earlier in Chapter 9 that people do not have single personality traits such as extroversion or agreeableness, but multiple traits of varying strengths. Here the goal is to look at how combinations of two personality traits are linked with differences

in factual political knowledge. Models presented earlier in Tables 9.2, 9.3 and 10.1 showed that some traits have positive direct effects (e.g. conscientiousness and emotional stability) and others direct negative ones (e.g. agreeableness) on factual political knowledge. If it is certain that all people have a combination of personality traits, this raises the question: what is the impact of different combinations of traits on level of objective knowledge?

The models of personality trait effects on objective political knowledge presented earlier in Tables 9.2, 9.3 and 10.1 consistently show that conscientiousness has a positive effect and agreeableness a negative one. This suggests that a person that scores highly on the conscientiousness trait and low on the agreeableness trait should exhibit higher levels of factual knowledge. A test of this interaction effect is presented in window (a) of Figure 10.3. Here we see that both high conscientiousness and low agreeableness are indeed associated with higher factual knowledge of politics.

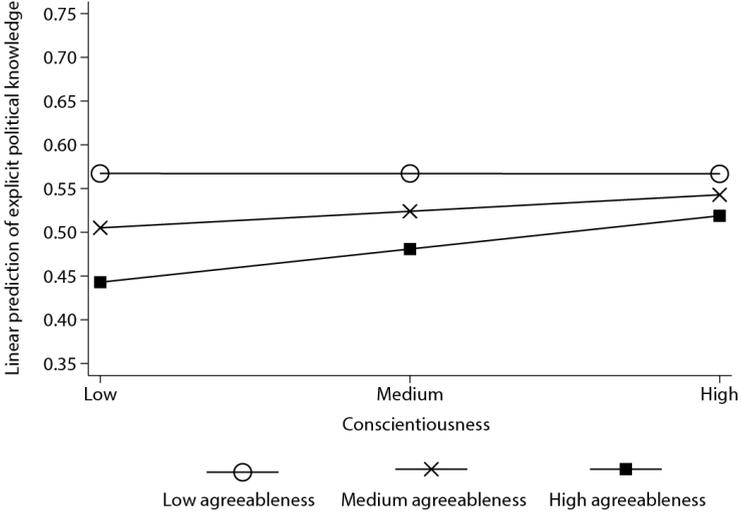
Conscientiousness and emotional stability both have significant ( $p < .10$ ) positive associations with higher levels of objective political knowledge. Does a person who has high conscientiousness and emotional stability scores on the Ten Item Personality Inventory (or TIPI scale) tend to have higher levels of objective political knowledge? Window (b) of Figure 10.3 reveals that the answer to this question is 'yes'. Higher levels of conscientiousness and emotional stability are associated with the highest level of factual knowledge. However, individuals with low conscientiousness and emotional stability also have high levels of objective knowledge. This is an example of the complex way in which different combinations of personality traits may be associated with higher levels of factual knowledge.

Finally, an examination of the combination of emotional stability and agreeableness, which have positive and negative direct effects respectively on objective political knowledge, is shown in window (c) of Figure 10.3. This graph shows close to parallel lines for different levels of agreeableness indicating no interaction effects.

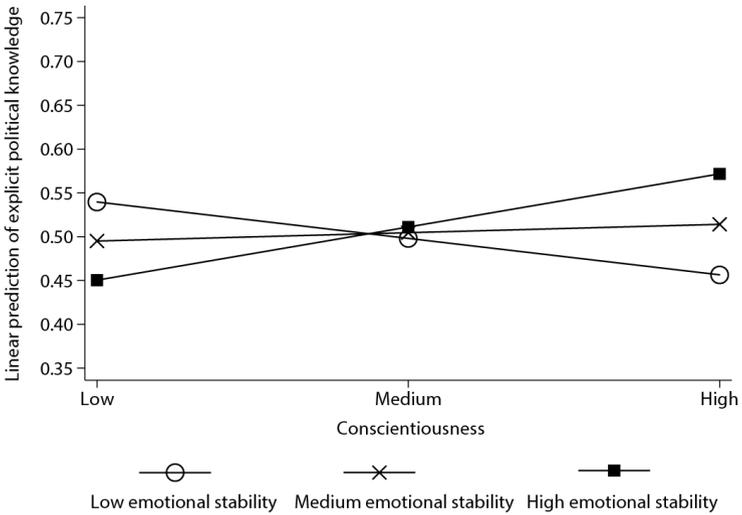
This brief examination of the indirect effects of personality traits on objective (factual) political knowledge reveals that the positive effects of specific traits such as high conscientiousness may be 'overcome' by the more powerful negative effects of low emotional stability. High agreeableness is an interesting trait because it has a positive impact on knowledge when combined with other traits (see windows (a) and (c) of Figure 10.3), but has a negative relationship with objective knowledge on its own. These modelling results highlight the importance of the combination of different traits on factual knowledge acquisition. In short, the main lesson here is that the direct impact of personality traits on the acquisition of factual political knowledge is only part of the story of how citizens learn about politics.

**Figure 10.3: Interactive effect of personality traits as determinants of objective political knowledge**

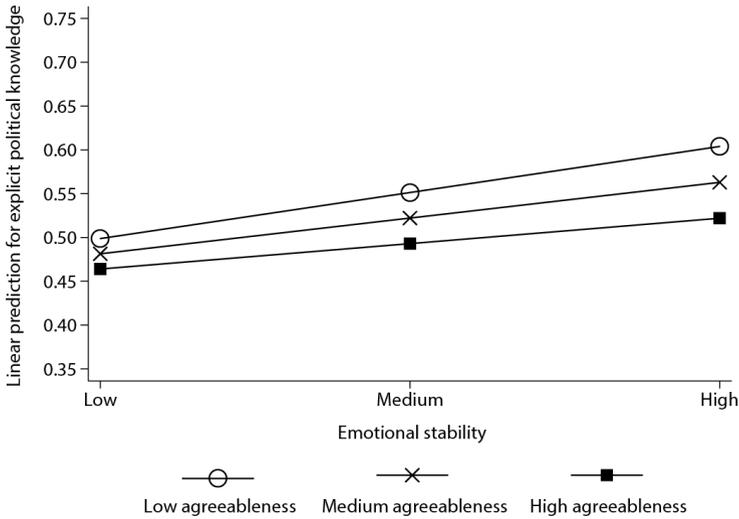
(a) Combined effect of conscientiousness and agreeableness traits



(b) Combined effect of conscientiousness and emotional stability traits



(c) Combined effect of emotional stability and agreeableness traits



Source: CVVM survey, November 5–12, 2012, n=1203

Note estimates based on model reported in Table 11.3. These figures show the mean predicted level of explicit or factual knowledge for each level of the personality traits that ranges from 1 to 14 points when constructed from two TIPI (7-point) scale items.

### 10.5.2 Interaction of traits and interest in politics on objective knowledge

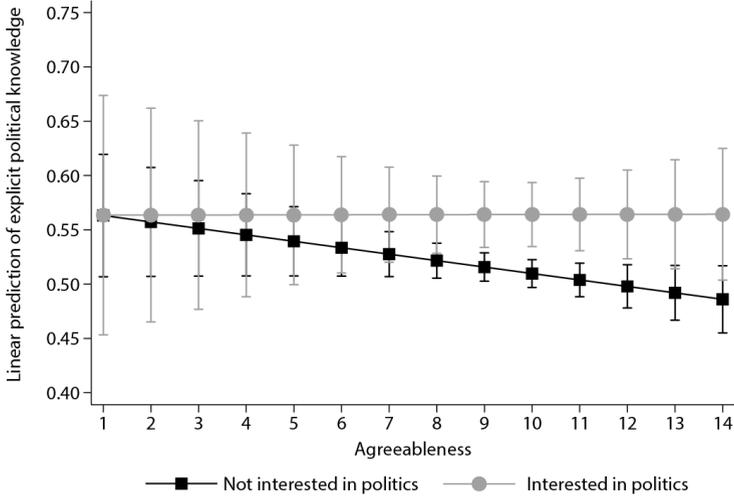
One of the most important determinants of objective (factual) political knowledge is interest in politics where there is always a strong and positive direct effect. In this subsection there will be an examination of personality traits that have both positive (i.e. emotional stability and conscientiousness) and negative (i.e. agreeableness) direct associations with higher levels of factual political knowledge.

The pattern in window (a) of Figure 10.4 reveals that the agreeableness trait has no impact on level of factual knowledge for those who are interested in politics. In contrast, for those who are not interested in politics higher scores on the agreeableness trait are linked with lower levels of factual knowledge. It seems that both agreeableness and little or no interest in politics combine to produce lower levels of objective political knowledge.

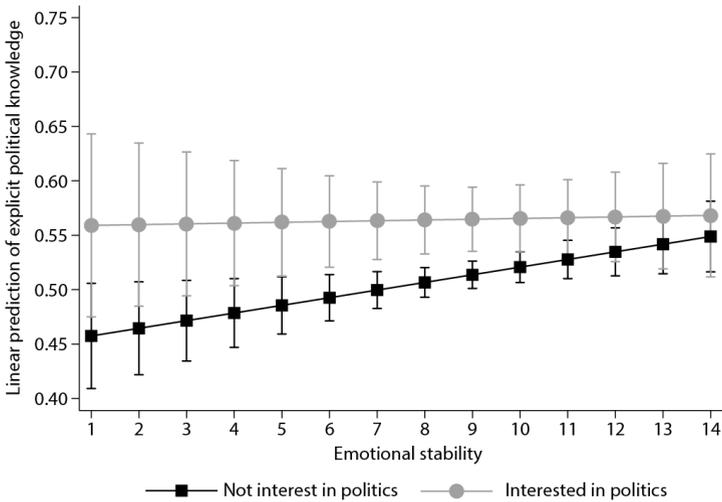
The combination of emotional stability and interest in politics, both of which have strong positive associations with higher factual knowledge, is shown in window (b) of Figure 10.4. Here the pattern is opposite that for agreeableness noted above. The emotional stability trait has

**Figure 10.4: Impact of the interaction of personality traits and interest in politics on predicted level of objective political knowledge**

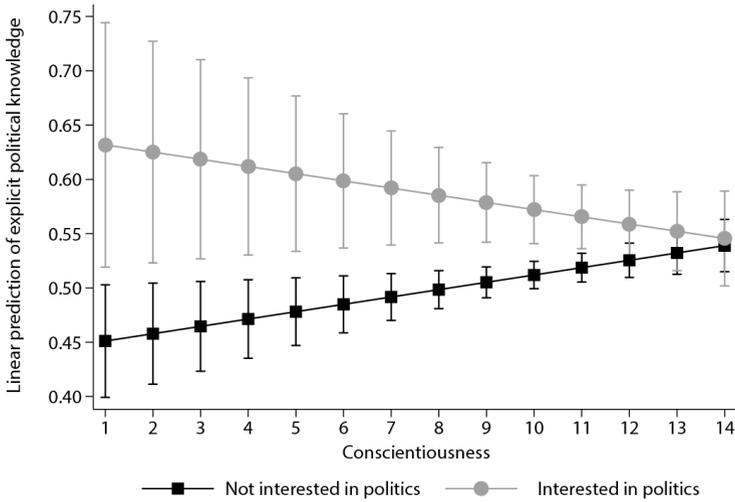
(a) Interaction of agreeableness by interest in politics



(b) Interaction of emotional stability by interest in politics



(c) Interaction of conscientiousness by interest in politics



Source: CVVM survey, November 5–12, 2012, n=1203

Note estimates based on model reported in Table 6.3. These figures show the mean predicted level of objective or factual knowledge for each level of the personality traits that ranges from 1 to 14 points when constructed from two TIPI (7-point) scale items.

no effect on level of objective knowledge for those interested in politics. However, for those not interested in politics having a higher emotional stability score on the TIPI scale is associated with greater factual knowledge. Here it seems that higher levels of emotional stability can ‘compensate’ for little or no interest in politics with regard to promoting greater factual knowledge about politics. This suggests that certain personality traits, such as emotional stability, can overcome lack of motivation for politics in ensuring a person is informed.

Window (c) of Figure 10.4 reveals that the combination of conscientiousness and interest in politics, where both have strong direct positive associations with objective knowledge, has important interaction effects. Higher conscientiousness is linked with a lower level of factual knowledge among those interested in politics and increases it for those who are not interested in politics. Consequently, the impact of higher conscientiousness on factual knowledge is to offset the effect of interest in politics on level of objective knowledge. This is a surprising finding because it reveals that the traditional view that conscientiousness promotes good citizen behaviour, such as being informed, only works in specific situations: when individuals are not interested in politics.

### *10.5.3 Interaction effects for implicit knowledge*

Turning attention now to the determinants of implicit political knowledge, the only personality trait with a significant effect, as Table 10.1 shows, is extroversion. The only other explanatory variables with significant direct positive effects ( $p \leq .05$ ) on level of implicit knowledge are (1) being open-minded and (2) living in a larger urban area. Education has a negative direct association with implicit knowledge. The aim of Figure 10.5 is to show how interactions of extroversion combined with (1) an open- or closed-minded style of thinking, (2) level of education, and (3) residence in an urban area, are related to levels of implicit knowledge.

Window (a) of Figure 10.5 shows that the combination of being open-minded with having a higher extroversion score on the TIPI scale has a positive association with implicit knowledge. In contrast, the combination of extroversion and being closed-minded has little impact on level of implicit knowledge. Windows (b) and (c) of Figure 10.5 reveals no interaction effects. The combined effects of extroversion with education and living in an urban area have positive, but non-significant effects.

The results presented in Figure 10.5 are important because they highlight that the combination of two positive direct effects on implicit knowledge can yield a (1) a positive interaction effect (extroversion and open-minded), or (2) no interaction effect (extroversion and residence in an urban area). The combination of positive (extroversion) and negative (education) direct effects on implicit knowledge also yield no interaction effect. These patterns of direct and interaction effects for implicit knowledge indicate that this facet of knowledge has important social interaction origins.

### *10.5.4 Interaction effects for interpersonal knowledge*

Finally, a series of interaction models were estimated for interpersonal knowledge. Here interactions for those explanatory variables that had strongest effects (reported earlier in Table 10.1), i.e. the openness to experience personality trait, interest in politics, education, and media use were estimated. The modelling results reveal some interaction effects. The combination of openness with education and media use is associated with significantly ( $p \leq .05$ ) higher levels of interpersonal political knowledge. These two interaction effects suggest that naturally curious individuals who (1) receive higher levels of education, and (2) are receptive to many media messages develop a reputation for being politically knowledgeable among their peers. This could be one personality-based channel through which opinion leadership emerges in social networks. In contrast, the combination of the openness personality trait with other explanatory variables such as interest in politics, age, sex (female), and internal political efficacy show no interaction effects.

A review of the many interaction results discussed above may be summarised in the points shown below. These exploratory results reveal that the three facets of political knowledge examined have different personality trait foundations. Objective knowledge is associated with three of the Big Five personality traits, while implicit and interpersonal knowledge are associated with single traits.

*Objective knowledge*

- Conscientiousness (high) & agreeableness (low) => higher knowledge
- Conscientiousness (high) & emotional stability (high) => higher knowledge
- Agreeability (high) & interest in politics (low) => lower knowledge
- Emotional stability (high) & interest in politics (low) => higher knowledge

*Implicit knowledge*

- Extroversion (high) & open-minded style of thinking (high) => higher knowledge

*Interpersonal knowledge*

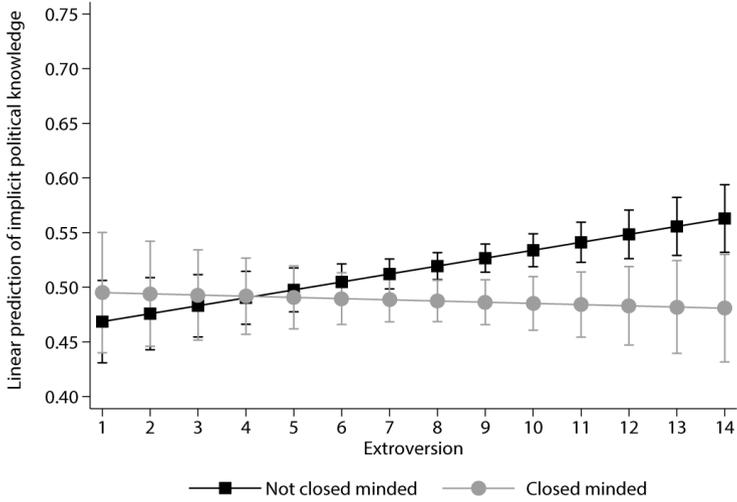
- Openness to experience (high) & education (high) => higher knowledge
- Openness to experience (high) & media use (high) => higher knowledge

These interaction effects are different to those reported by Mondak (2010: 113–115) in his exploratory analysis. Mondak found that the combination of high openness and low conscientiousness was associated with greater levels of factual knowledge about politics. Such an interaction effect is not evident in the Czech data examined. One reason for the differences observed may relate to how the Big Five personality traits were measured: Mondak did not use the TIPI scale. For this reason, traits such as openness may have been measured differently where the TIPI scale focusses more on openness as an experience rather than as being intellectually curious (Blanchet 2015).

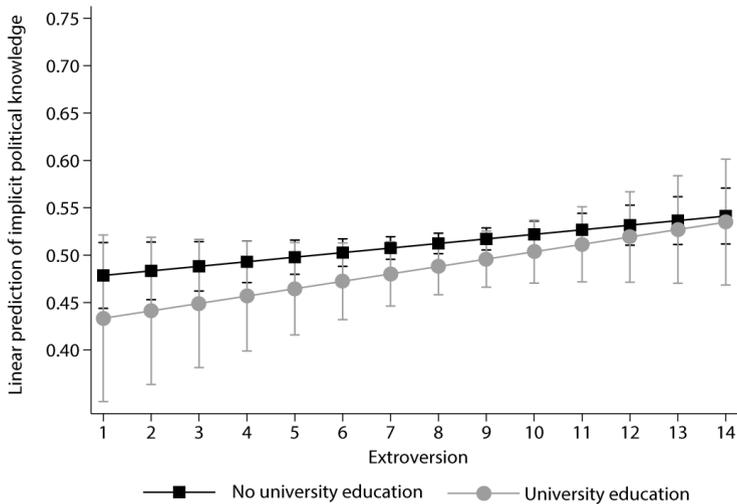
One could also argue that the inclusion of a set of style of thinking variables (see the centre of Table 10.1) may have lessened the impact of personality traits on the three facets of political knowledge examined. This is because styles of thinking are likely to have some personality trait origins. However, a simple comparison of the personality trait parameter sizes in Tables 10.1 and 9.2 (with and without the style of thinking variables, respectively) reveals few differences. This suggests that personality traits and styles of thinking have independent effects.

**Figure 10.5: Impact of the interaction of extroversion, style of thinking, education and community size on predicted level of implicit political knowledge**

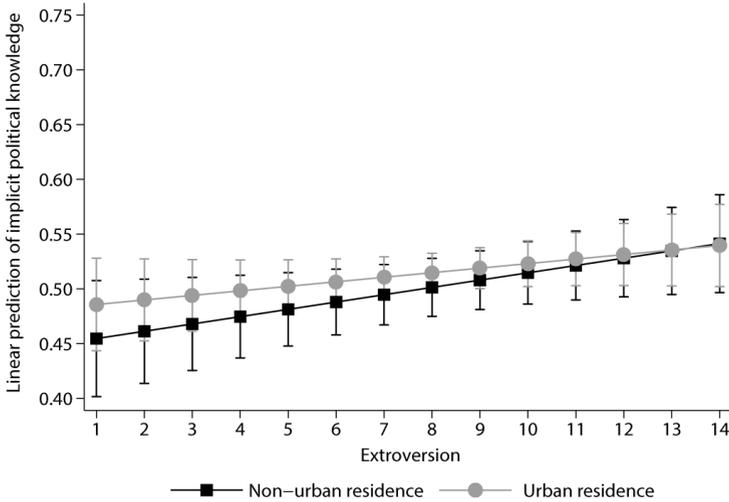
(a) Interaction of extroversion by closed-minded



(b) Interaction of extroversion by level of education



(c) Interaction of extroversion by community size (urban  $\geq$  15,000 residents)



Source: CVVM survey, November 5–12, 2012, n=1203

Note: estimates based on model reported in Table 6.3. These figures show the mean predicted level of objective or factual knowledge for each level of the personality traits that ranges from 1 to 14 points when constructed from two TIPI (7-point) scale items.

## Conclusion

The goal of this chapter has been to explore the determinants of three types of political knowledge, where a special emphasis has been placed on the role of stable psychological predispositions, or personality traits. The modelling results presented show that different personality traits do have significant effects on the three types of political knowledge examined. Personality traits and style of thinking (i.e. being open-minded and following a pragmatic decision-making approach) have the most impact on objective political knowledge. In addition, specific motivations such as interest in politics, ability (education) and opportunity effects (sex and media use) are also important. Many of the MAO determinants of objective and interpersonal knowledge are the same, although the Big Five personality trait bases are different.

Implicit political knowledge is unlike objective and implicit knowledge. This suggests that decision-making based on this form of knowledge, which is grounded in sub-conscious or non- or pre-cognitive evaluations, has different foundations. Implicit knowledge is expected to be non- or pre-cognitive, and the negative association with education indicates that this type of knowledge is more prevalent among those

with less schooling. However, it is important to emphasise that there are few other attitudinal and social position (socio-demographic) differences showing this type of knowledge is distributed more or less equally across the Czech population. Explorations of the effects of personality traits on (a) other personality traits, (b) style of thinking scales, and (c) Motivation-Ability-Opportunity (MAO) variables, revealed some important interaction effects. Three points are worth emphasising here.

First, high conscientiousness and high emotional stability boosts objective political knowledge, although the direct effect of emotional stability on factual knowledge is negative. This suggests that it is important to consider both direct and interaction effects, as they may have contrasting impacts depending on the context. Second, higher levels of conscientiousness overcome the negative impact of political indifference to increase objective knowledge; however, greater conscientiousness is associated with less factual knowledge among those interested in politics. This shows that factors that independently boost political knowledge may work in a negative manner when combined. Third, sometimes the determinants of knowledge work independently and there are no interaction effects: this is the case with the impact of openness to experience and interest in politics on interpersonal knowledge.

Overall, the modelling results presented in this study, as summarised in Table 10.1 and shown in Figures 10.3 to 10.5, broadly match those reported in previous research by Mondak and Halperin (2008), Mondak (2010), and Gerber et al. (2011) summarised earlier in Figure 10.1. This suggests that the impact of personality traits on objective political knowledge is reasonably robust. However, Table 10.1 also shows some mixed results for emotional stability and conscientiousness. Here the key difference is the positive effect of conscientiousness on objective political knowledge reported in this chapter, which contrasts with the negative association found consistently in American-based studies. In this respect, as noted above, Mondak (2010) reports that his initial expectation was for a positive association between conscientiousness and political knowledge; however, he was surprised with finding a negative relationship.

Further research is required to examine this inconsistency in greater detail, and to determine if the traditional view that conscientiousness makes for 'good citizens' is valid. In addition, the results presented in this chapter also indicate that implicit political knowledge is unique in having few determinants in common with either objective or interpersonal knowledge. Implicit knowledge, which is based on the effective use of visual and other forms of cues and heuristics in the absence of factual information, is undoubtedly important in two situations: (1) citizens with low levels of objective and interpersonal knowledge depend solely on non- or pre-cognitive skills for making political choices (or use random guessing), and (b) vote choices made by many citizens in low information (or salience) elections must also depend on references to

such things as candidate photos, names, or academic qualifications in order to make inferences about relative competence when casting a ballot.

In short, evaluations of citizens' level of political knowledge should not be restricted to factual measures because facts are only one basis for making choices. A comprehensive treatment of how citizens take decisions requires consideration of non- and pre-cognitive strategies, which the survey evidence suggests are used more often than fact-based ones. The last four chapters have explored the determinants of political knowledge, and how respondents answer quiz questions during survey interviews. Moreover, the nature and origins of different facets of political knowledge have been explored with a broad range of explanatory factors.

In the next section of this book, the focus will move toward exploring some of the consequences of differences in level of knowledge. The next three chapters will examine how political knowledge influences (1) correct voting, (2) ability to predict the future, and (3) knowledge differences between experts and citizens in making decisions.



## **PART 4: CONSEQUENCES OF POLITICAL KNOWLEDGE**



# Chapter 11: Impact of Objective Political Knowledge on Voter Turnout and Correct Voting

Thus, we define a ‘correct’ vote decision as one that is the same as the choice which would have been made under conditions of full information.  
Lau and Redlawsk (1997: 586)

Correct voting refers to the likelihood that citizens, under conditions of incomplete information, nonetheless vote for the candidate or party they would have voted for had they had full information about those same candidates and/or parties.

Lau, Andersen and Redlawsk (2008: 396)

## Introduction

A central characteristic of all systems of multiparty democracy is that citizens vote for the correct party that will best represent their interests in the national legislature and government. It was highlighted in Chapters 1 and 2 that there is much research showing that most voters have little interest in politics and low levels of knowledge. There is a stream of scholarship ranging from Walter Lippmann (1922, 1925) to Bryan Caplan (2007a) and more recently to the works of Oppenheimer and Edwards (2012) and Ilya Somin (2013) which concludes that citizens do not vote rationally. In reality, ‘irrational’ or inconsistent voting choices are the norm because many voters do not vote for a candidate or party that best represents their interests. Given the high costs of seeking voting information and the low expected benefits it has been sometimes argued that it is rational to (a) remain ignorant of politics, and (b) not to vote at all (Downs 1957: 245, 259). More will be said on this point in Section C.3 in the Conclusion chapter.

One influential alternative approach to evaluating the electoral choices of voters has been Lau and Redlawsk’s (1997) concept of ‘correct voting’ quoted in the epigraph. Here the criteria for voting in a sensible manner is reduced to supporting the party whose policy positions match most closely with those of the voter (Lau and Redlawsk 1997, 2006: 75; Lau, Andersen and Redlawsk 2008). A similar idea is evident in Robert A. Dahl’s (1989: 180–181) notion of a ‘real vote’. This is the choice a voter would make if they had the ‘fullest attainable understanding of the experience that would result from their choice and its most relevant alternatives’. Here political knowledge is factual information about the palette of choices for electing governments.

Ironically, John Zaller (1992: 18), one of the most influential public opinion scholars over the last three decades, notes that many of the

explanations of party choice assume that all voters are equally well informed. In sum, there is little appreciation of the possibility that different sections of the electorate might vote against their self-interests because of ignorance. Here the importance of systematic differences in level of objective or factual political knowledge, examined in earlier chapters, reveals that evaluations of the nature and effectiveness of systems of democratic representation should (a) examine the relationship between political knowledge and correct voting, and (b) explore how the electoral context mediates this relationship.

In short, there are good reasons to think (1) not all Czech citizens vote consistently in general elections, and (2) there are systematic differences among voters, where those with higher levels of factual political knowledge and who have strong opinions about the importance of elections (i.e. they agree who is in power makes a difference and it matters which party a person votes for) will vote more consistently than all others. This chapter will show that in the last three lower chamber elections (2006, 2010 and 2013) higher levels of factual political knowledge were associated with greater turnout rather than higher levels of correct voting. These results are important because they reveal that the main impact of objective (factual) political knowledge in elections is to motivate turnout rather than voting for a party that best matches voters' interests.

The first section of this chapter outlines what correct voting is, how it is measured and why it is important. Here it will be argued that a key determinant of correct voting is political knowledge, interest in politics, and attitudes motivating voters to see elections and government composition as being important. Section 2 presents the survey data and analysis methods used in this chapter, and Section 3 outlines the modelling results. The concluding section highlights the importance of knowledge for correct voting and political representation.

### **11.1 A Theory of Correct Voting**

The central idea behind 'correct voting' is intuitive: citizens select the party that best matches their policy preferences. However, the motivations for decisions such as voting are (a) efficiency and (b) accuracy, where the costs of making a choice should ideally be low and the choice made should be the right one (Lau and Redlawsk 2006). One important feature of 'correct voting' is that citizens who vote correctly are acting in an observationally equivalent manner to those with high levels of knowledge. This is important because it implies that it is possible in theory to have an effective system of democratic representation without always having universally high levels of factual political knowledge among citizens. Citizens could vote correctly on the basis of something other than knowledge such as following the advice of opinion leaders: a theme discussed in Chapters 6 and 7.

In practice, correct voting has been measured using both experiments and mass surveys. With mass surveys, which represent the most influential line of research, voting correctly has been defined in terms of four criteria. A person is said to have voted correctly (or consistently) if (1) they voted for the party that they feel psychologically close to; (2) the policy positions of the voter and the party they voted for are the same; (3) the class affiliation of the respondent matches the class voting pattern observed in the general election; and (4) the voter has a positive evaluation of their preferred party's performance if the party has been in government.

### *11.1.1 An alternative approach to correct voting: simulate knowledge effects*

It is important to stress from the outset that there is no generally accepted way to evaluate if an individual elector votes correctly. Having consistent political attitudes and party preferences is one means of showing the link between factual knowledge and voting. An alternative approach based on statistical simulation operationalises correct voting in terms of how citizens would have voted if they had a high score in a political knowledge quiz (e.g. Bartels 1996; Delli Carpini and Keeter 1996; Althaus 2003).

Using the Czech National Election Study of 2006, a simulation of high knowledge voting patterns found that if all Czech voters were very well informed they would support (1) the Civic Democrat Party (ODS) and (2) have more right-wing policy preferences than observed in the post-election survey (Lyons 2010: 192–193, 199–201). The impact of information effects on collective public opinion is divided into two sub-tables for ease of presentation in Table 11.1. The top part of Table 11.1 demonstrates with regard to the left-right economic dimension that if all Czech citizens were fully informed they would be a good deal more right-wing with regard to (1) government intervention into the economy, (2) not allowing communist-era (KSČ) officials to hold office today, (3) privatising state enterprises, and (4) having a flat tax.

On the second liberal-conservative social dimension, it appears from the bottom part of Table 11.1 that the values of 'fully informed' Czech citizens in 2006 were more liberal than the average voter. This liberal tendency was particularly strong in the case of crime policy, the European Union, and abortion. The failure to see collective information effects for the 'economic growth versus protect the environment' issue suggests that greater objective political knowledge in 2006 would not have supported more interventionist policies to deal with man-made climate change. Overall, the statistical simulation results shown in Table 11.1 reveal significant and systematic knowledge effects showing that voting in the absence of high (factual) knowledge should have important real-world consequences for Czech politics.

One of the main problems with this simulation approach to estimating correct policy preferences and voting is that it tends to equate

**Table 11.1: Impact of objective political knowledge on the Czech public's policy preferences, 2006**

<i>Issue</i>	<i>Policy preference options</i>	<i>Actual</i>	<i>Predicted</i>	<i>Diff.</i>	<i>N</i>	<i>Change</i>
Govt. intervention into the economy	Yes	70	48	22	1682	Right
	No*	30	52		2002	
Public offices for KSC era officials	No*	56	73	17	1868	Right
	Yes	44	27		2002	
Privatisation of state enterprises	Privatise*	83	93	10	1801	Right
	Retain state ownership	17	7		2002	
Taxation policy	Progressive taxation	65	55	10	1653	Right
	Flat tax rate*	35	45		2002	
Family policy	State support larger families	78	87	9	1759	Left
	No state influence family size*	22	13		2002	
Rent regulation	State should regulate rent	67	59	8	1638	Right
	State should not regulate rent*	33	41		2002	
Immigration laws	More strict laws*	59	66	7	1859	Right
	Less strict laws	41	34		2002	
Government economic priority	Fight unemployment	92	99	7	1893	Right
	Lower inflation/budget debt*	8	1		2002	
Privatise healthcare	Public hospitals	79	85	6	1562	Left
	Private hospitals*	21	15		2002	
Healthcare payments	Private provision*	8	7	1	1979	None
	Public provision	92	93		2002	
Crime policy	Enhance security#	30	13	17	1944	Liberal
	Protect civil liberties	70	87		2002	
European Union	Deepen integration	66	82	16	1561	Liberal
	Integration gone too far#	34	18		2002	
Abortion	Pro-life#	18	4	14	1846	Liberal
	Pro-choice	82	96		2002	
Church involvement in politics	Yes#	8	2	6	1896	Liberal
	No	92	98		2002	
Agricultural subsidies	No subsidies#	94	98	4	1845	Liberal
	Subsidies	6	2		2002	
Government priority	Economic performance#	40	39	1	1793	None
	Environmental protection	60	61		2002	

Source: Czech National Election Study, June 9–21 2006, n=2002, question 29  
 Note the top part of this table refers to left-right issues and the bottom part liberal-conservative ones. These estimates are based on unweighted data. See the appendix

of this chapter for details on these issue scale items. Column data sums to one hundred percent. Differences (Diff.) refer to actual minus predicted opinion. The number of cases for actual opinion excludes respondents who gave don't know or no answer responses. Predicted opinions include all respondents, as values for non-responses were estimated. With regard to the orientation of the majority of the public, only in the case of government intervention into the economy does having fully informed citizens make a difference in reversing collective opinion. \* Rightist orientation; # Conservative orientation. KSČ here refers to members of the Czechoslovak Communist Party before the Velvet Revolution of 1989 and this item refers to support for lustration.

knowledge with wealth. In other words, if all citizens were knowledgeable they would vote like rich people because in the Czech Republic in 2006 those with the most wealth tended to be the most knowledgeable. This is not very helpful because it simply makes knowledge coterminous with personal resources. The evidence presented in Chapter 7 shows this is not true. Motivation is a much more important determinant of political knowledge than resources. As noted earlier, it is possible that correct voting could occur among ignorant citizens who follow the advice of opinion leaders, thereby complicating the direct relationship between high knowledge and correct voting (note Eagly and Chaiken 1993; Katz and Lazarsfeld 1955: 25–32).

In short, the 'consistency' approach to correct voting has much to recommend it because it is individuals themselves who decide what is 'correct voting' rather than the position of their better informed (wealthier) fellow citizens. In this chapter, we will adopt the agnostic position about factual knowledge and correct voting and see if higher levels of objective knowledge help predict voting consistently with one's preferences. A similar perspective was adopted by Baum and Jamison (2006) in their study of how exposure to television talk-shows, or soft news, improved the level of 'consistent voting' among less knowledgeable voters. Now, it is time to explore in greater detail the consistency basis of correct voting.

### *11.1.2 Correct voting as consistent preferences and choices*

The original formulation of correct voting put forward by Lau and Redlawsk (1997, 2006) for the United States has not been adopted in all studies of voting. This is because the conditions for correct voting in the United States, which has a two-party system with a first-past-the-post electoral system, do not occur in many European countries, where proportional electoral systems with many parties in parliament are the norm. Box 11.1 outlines a more detailed definition of correct voting and why objective political knowledge should not be included in a definition of correct voting because this approach runs the risk of conflating being informed with voting in a consistent or correct manner.

### **Box 11.1: What is correct voting and how is it measured in mass surveys?**

Voting correctly is choosing the party that best matches the voters' preferences, and this pattern in party choice can be considered 'rational' to the extent that the information costs do not outweigh the benefits of voting correctly. Information costs are important because parties may choose to field ambiguous or misleading campaigns leading voters to become confused and vote incorrectly. Rational voting in this situation is defined purely in terms of the individual voter who is assumed to know their own interests best, and correct voting is 'subjectively rational' because a voter votes consistently with their own stated preferences.

Measuring correct voting is complicated because it involves identifying all of the factors that determine party choice. This is because it cannot be assumed that voting is only determined by the similarity of voters' and parties' policy positions. Other factors such as perceived competence, leadership effects, and class or economic voting may also be considered rational considerations.

Within the context of the American National Election Survey (ANES) correct voting occurs if three conditions are met. First, if a voter's party attachment and party choice are the same then this person has voted correctly. Second, if a voter chooses a party where both the policy preferences of the voter and the party are on the same side of an issue. For example, if a voter favours government intervention into the economy (0) in contrast to government adopting a strict free market (10) on a zero to ten point scale by selecting a 3 on this scale, then the voter will vote correctly by choosing any party with a score of 5 or less. Here the definition of policy voting follows a directional logic proposed by Rabinowitz and Macdonald (1989). The definition of what a party's policy position is estimated from the policy evaluations of the most knowledgeable respondents in a survey. Who is a knowledgeable respondent is derived either from having a greater mean score on the factual knowledge scale used by Lau and Redlawsk (1997, 2006), or using interviewer evaluations (Baum and Jamison 2006; Richey 2008). The policy positions of parties based on the most knowledgeable voters is cross-validated with interviews with political scientists using the same policy position scales (Baum and Jamison 2006; 950). Third, voting in the same way as members of a voter's social group is also taken to be an indicator of correct voting. Within the ANES there are questions exploring respondents' 'closeness' to a set of social groups such as trade unions and business where closeness must be significantly ( $p \leq .05$ ) linked to the probability of voting for one or more presidential candidate (Richey 2014: 29–30).

Within this chapter respondents' policy distance is measured using a proximity or Downsian spatial logic where correct voting is defined in terms of voting for the party that is closest to the respondent on the left-right scale. Here respondents first rated all parties on an 11-point left-right scale and then provided a self-rating. This approach facilitates voters' having their own view of the left-right nature of party competition and has a stringent view of what constitutes correct voting by using a proximity rather than directional logic. In short, this is a more realistic and tougher test of correct voting in policy terms.

In addition, this chapter does not use respondent's level of political knowledge to define any element of correct voting. Knowledge is viewed here as an important external determinant of correct voting and should not be used to both define and explain correct voting thereby running the risk of explaining correct voting in terms of itself (an endogeneity problem). If highly knowledgeable individuals show higher levels of correct voting this should be examined as an important empirical question. Highly knowledgeable citizens could have lower levels of correct voting than average because they may decide to vote strategically rather than sincerely, i.e. consistently with their partisanship, policy preferences or class interests. Here we see a limitation of correct voting: it has difficulty in dealing with strategic (rational) choices.

Initial research on correct voting focussed on two key tasks. First, mapping out the level of correct voting in an electorate in general (or first order) elections. Second, determining what are the key factors that promote correct voting (Lau and Redlawsk 1997, 2006; Holbrook 2006; Lau, Andersen and Redlawsk 2008). More recently, correct voting research has focussed on three key themes.

- What is the level of correct voting in second order elections such as U.S. presidential primaries, US senate races and European Parliament elections (Lau 2013; Bergbower 2014; Hines 2006; Rosema and de Vries 2010).
- What is the role of contextual factors such as social networks, political or electoral institutions, and number of parties in determining correct voting (Ryan 2011; Sokhey and McClurg 2012; Walgrave et al. 2011).
- What types of methodological issues such as measuring party policy positions using comparative party manifesto data to obtain objective estimates of correct positions arise when evaluating if an individual voted 'correctly' (McGregor 2013).

Some of the latest work has endeavoured to specify more clearly when correct voting is more likely to occur by taking into account the fact that not all elections are the same. Some polls are competitive and have intense campaigns that provide lots of information to voters, while others are less visible and there is less information about parties and their policy positions. In short, the level of correct voting depends on type of election.

As correct voting is based on issue voting criteria it is important to briefly examine this form of voting and the link between level of factual knowledge and supporting a party with the same policy preferences. Unfortunately, there is no definitive method for operationalising issue voting. Rival approaches to measuring party policy distances (e.g. prox-

imity vs directional) sometimes yield different results, making it difficult to decide which policy closeness measures are best (Meyer and Müller 2014). Moreover, the impact of objective political knowledge on issue voting is known to depend on how issue voting is measured and the election context. Here the main insight is that issue voting, like correct voting, should be mainly evident for knowledgeable voters. At present the impact of factors such as election context is unknown and is the subject of ongoing research.

What the current research does show is that the key determinants of correct voting are voters' personal history and long-term political predispositions. This long-term perspective is consonant with the insights of the 'classical' models of voting outlined by two influential streams of electoral research in political science, i.e. the Columbia and Michigan Schools in American voting behaviour that emphasised sociological and psychological factors, respectively (Berelson, Lazarsfeld and McPhee 1954; Campbell et al. 1960).

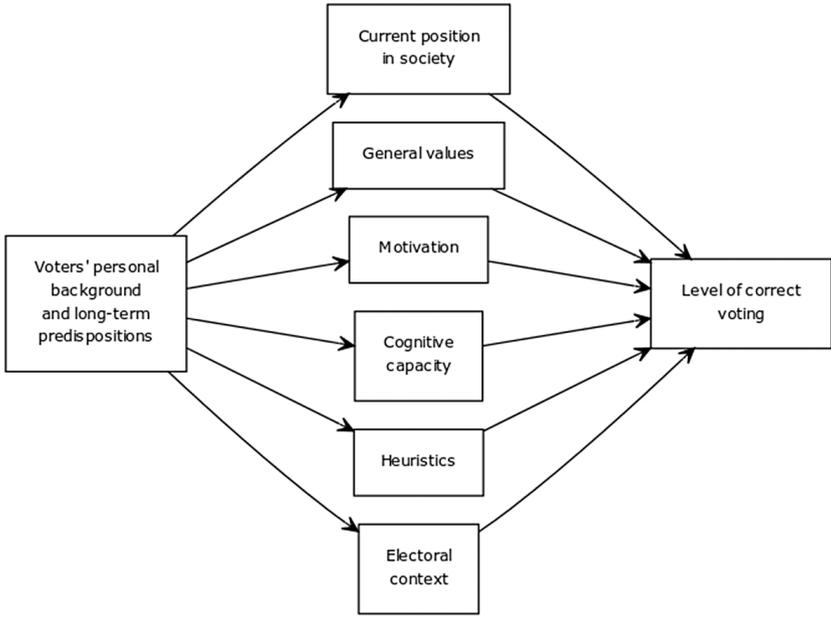
A flavour of the power of long-term factors in shaping voting behaviour in America in the presidential election of 1948 is evident in the following quote from Berelson et al.'s (1954: 310–311) influential book *The People's Choice*.

For many voters political preferences may better be considered analogous to cultural tastes – in music, literature, recreational activities, dress, ethics, speech, social behaviour [...] Both have their origin in ethnic, sectional, class, and family traditions. Both exhibit stability and resistance to change for individuals but flexibility and adjustment over generations for the society as a whole. Both seem to be matters of sentiment and disposition rather than 'reasoned preferences.' While both are responsive to changed conditions and unusual stimuli, they are relatively invulnerable to direct argumentation and vulnerable to indirect social influences.

A key implication from this research was the limited ability of media-based election campaigns to influence voting. To the extent that campaigns and the media matter, their main role may be to activate 'latent predispositions' among the electorate (Finkel 1993: 4). In other words, information and knowledge are used selectively to confirm and justify long established preferences: a process described more recently by Lodge and Taber (2013) as 'motivated reasoning' (a theme discussed in greater detail in the concluding chapter). Such classic work suggests that political knowledge may motivate turnout to support a preferred party, but may not have a strong impact on party choice or 'voting correctly'.

Turning back now to Lau and Redlawsk's correct voting model, Figure 11.1 highlights that individuals' (correct) voting choices are mediated through a variety of factors, such as motivation, cognitive competence (level of education) and electors' position in society. Within the

**Figure 11.1: Correct voting modelling framework incorporating individual and contextual factors**



Source: derived from Lau, Andersen and Redlawsk (2008: 397)

Note that the channel through which political knowledge helps determine degree of correct voting or the more general criteria of ‘quality of vote choice’ is through an elector’s cognitive capacity. The ‘electoral context’ factor is ‘exogenous’ in the sense that it refers to aggregate level processes such as campaign effects that operate beyond the individual voter. Details of the operationalisation of ‘level of correct voting’ are given in Figure 11.2.

context of specific elections where the stakes, from the typical voters’ perspective, are low, the motivation to seek out costly (in terms of time and resources) accurate information to make a correct vote choice is also low. In practice, this means that the level of correct voting should be highest in general elections and lower in all other types of elections (note Highton 2010: 455–458). This fits with a rational choice explanation of individual citizens’ electoral behaviour, where the costs of becoming informed are considered to be an important part of turnout and party choice. An important question here is what is the decision-making process that leads to correct voting? One answer to this question is to use insights from the dual process theory of decision-making developed by psychologists.

### *11.1.3 Dual process model and correct voting*

The dual systems approach to human thinking and decision-making was discussed in some detail earlier in Chapter 7. For the sake of brevity, one version of the dual systems account of decision-making will be presented here to demonstrate how citizens might vote correctly in the absence of information or factual knowledge. According to Daniel Kahneman (2011), voters will rely on ‘automatic’ sub-conscious decision-making for mundane and repetitive elections (note also Marcus, Neuman and MacKuen 2000; Neuman et al. 2007). In contrast, when an election campaign has some new unexpected features then the style of decision-making is more calculating and logical.

More concretely, voting on the basis of automatic thinking will involve the voter linking current party alternatives to what is familiar, such as the palette of choices in previous elections. For example, the party choices in the 1996, 1998, 2002 and 2006 elections to the lower chamber in the Czech Republic were largely the same, so voters could in theory have voted on the basis of standing psychological predispositions such as partisanship or ideology. Conversely, with deliberate thinking voters pay attention to the fact that the current election is different. Therefore, ‘standing’ party choice decisions may no longer be appropriate. The Czech Lower Chamber Elections of 2010 and 2013 would fall into this category due to the emergence of new parties that were electorally successful and entered government.

### *11.1.4 Determinants of correct voting*

From this dual system processing perspective, voters with higher levels of information and motivation should have higher levels of correct voting. Of course, the dual system model also highlights the importance of context where some elections are more important than others. In other words, the determinants of correct voting are not only shaped by individual-level voter characteristics. Individual vote choice is also influenced by the context of an election, where it is easier in some elections to vote correctly than others because the political situation is more familiar. Therefore, the bottom part of Figure 11.1 also contains an election context factor that has an important independent impact on correct voting above and beyond the individual-level attributes discussed earlier. For this reason, separate models will be estimated for the Czech Lower Chamber Elections of 2006, 2010 and 2013 in order to see if there is some evidence for context effects.

The expectation is that differences in how knowledgeable voters are about politics will have a strong impact on whether an individual votes correctly. In addition to factual information, it is expected that motivational factors such as (1) interest in politics and (2) thinking that the choice to vote in elections is important should also play central roles in predicting if a person votes correctly. All of these expectations are

presented in Figure 11.2 in terms of different types of explanation: knowledge, interest, and motivation.

Additional explanations refer to a person's (cognitive) ability to use political information to vote correctly, where it is expected that those with higher levels of education would be best able to match their preferences and interests with party choice. Finally, a voter's position in society gives advantages to those with greater resources such as money, time and the opportunity to discuss politics and follow news and debates in the media. In this chapter, the focus will be on age (young vs old), sex (female vs male) and occupational status (employed vs student). Previous research has consistently shown that women and the young tend to have (1) lower levels of interest and factual knowledge and (2) lower levels of correct voting.

In the original formulation of correct voting, Lau and Redlawsk (1997, 2006) attached great importance to individuals voting in the same way as the social groups to which they feel closest. Within the Czech Republic this consideration refers to the importance of class voting. Here social class is defined in terms of occupation, where it is known that higher and lower professionals and the self-employed support right-wing parties such as the Civic Democrats (ODS) and skilled and manual workers vote for leftist parties such as the Social Democrats (ČSSD) (see Smith and Matějů 2011; Linek and Lyons 2013: 103–129). Here the focus is on two key social groups that differ greatly in their perceptions of interests. Employees who pay taxes are motivated to figure out which party offers them the best policy mix with regard to level of taxation and public services provision. In contrast, students are less motivated to vote correctly, if at all, as they have one of the lowest voter turnout rates, because their current 'stake in the system' is less than many other social groups. As a result, correct voting among students should be lower than the average.

Of course, voting correctly is also likely to be affected by the type of election: contests that are close, or polarised, in nature will help voters in identifying which parties best represent their interests. One of the most important electoral context features is the degree of party competition evident during an election campaign, which in many European multiparty systems, such as the Czech Republic, is shaped by left-right ideological differences. Campaigns that are dominated by strong competition between large parties on the left and right make it easier for voters to select a party that best matches with their own policy preferences. Having highlighted what correct voting is, and why it is important, it is now appropriate to outline how correct voting will be examined in this chapter.

## 11.2 Data and Methods

The analyses presented in this chapter are based on analyses of Czech National Election Studies undertaken in 2006, 2010 and 2013. This set of

**Figure 11.2: An overview of explanations, variables and results for modelling correct voting in the Czech Republic, 2006, 2010 and 2013**

<i>Explanations</i>	<i>Variables</i>	<i>Expected impact on correct voting</i>
Information	Political knowledge	Greater among those with higher knowledge (Lau, Andersen et al. 2008)
Interest	Interested in politics	Increases with greater political awareness (Baum and Jamison 2006: 953–954)
Motivation*	Who is in power is important	Higher for those who care about election outcome (Lau, Andersen et al. 2008)
	Voting is important	Improves with belief in importance of voting
Ability (cognitive)*	Education	Increases with level of education (Lau, Andersen et al. 2008)
Opportunity* or current position in society	Age	Increases with age (Lau, Patel et al. 2008)
	Sex (female)	Higher for females (Lau, Andersen et al. 2008)
	Marital status	Greater among married couples (note Barry 2011; Sokhey and McClurg 2012)
Social class	Employed	Higher among employed
	Student	Lower among students
Electoral context	Different elections	Varying levels of correct voting (Walgrave et al. 2011)
	Polarisation	Ideological polarisation increases correct voting among informed (note Lachat 2008)

Source: author

Note that all explanations other than ‘electoral context’ refer to individual-level effects. This figure highlights some of the theoretical expectations regarding the determinants of correct voting, where the main interest of this chapter is knowledge effects.

\* Refers to the Motivation-Ability-Opportunity (MAO) model used in other chapters to explain which citizens are knowledgeable.

post-election surveys contains the most extensive set of common questions that facilitate making the most comprehensive evaluation of correct voting in the Czech Republic.

It was noted above that the central idea of the ‘correct voting’ concept is that voters select the party that best represents their interests. In its original formulation, correct voting was based on including ‘as many of the criteria for candidate evaluation that have been identified by prior research as possible, allowing respondents to determine their own preferences while relying primarily on “objective” criteria for rating the candidates’ (Lau and Redlawsk 1997: 596).<sup>42</sup> Consequently, the candidate evaluations operationalised were based on four explanatory variables: (1) party affiliation, (2) agreement with a candidate’s policy stands, (3) candidate-social group linkages, and (4) supporting incumbents seeking re-election who were considered a success in office.

Each of these four evaluation criteria was coded as either one (1) or zero (0), indicating if the specific variable were used by the voter to evaluate a party. For example, partisanship plays no role in voting for a person with no party attachment. Objective criteria for candidate positions were estimated in various ways. The ‘true’ score of candidates’ issue positions was defined as the mean position of respondents with high political knowledge, i.e. those with knowledge greater than the median. The partisanship of social groups was taken from significant correlations between the ‘closeness’ of each group and recalled vote choice.

A variant of the general framework for modelling party choice in elections employed by Lau, Andersen and Redlawsk (2008: 397) was shown earlier in Figure 11.1 where there are five individual-level factors plus an election context effect. This chapter builds on this line of reasoning by presenting in greater detail indicators for each of the explanatory factors. Prior to presenting the logic and expectations regarding these explanatory variables, it is important first to discuss in detail the nature of the dependent variable, the level of correct voting, used in this chapter, as this is different to the definition used by Lau and Redlawsk (1997).

In this chapter, correct voting in the Czech lower chamber elections is defined in terms of consistently reporting the same party for vote choice and seven criteria related to (1) partisanship, (2–3) perceptions of the party and party leader that best represents the voter, (4–5) the party and party leader that are most liked, (6) the probability of voting for a party in any election, and (7) the party that is closest to the voter in left-right terms. The core part of correct voting is reported party choice in the previous lower chamber election, generally held within one month of the post-election survey. The following list shows that the questions used

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42 Later, Lau, Andersen and Redlawsk (2008: 397ff.) advised that ‘[...] researchers attempting to operationalize correct voting [...] to devise some objective means of determining which candidate best represents a citizen’s values [...] rather than relying on purely subjective judgements by survey respondents themselves as to where the candidates stand on the issues or considerations at hand’.

to construct the correct voting scale, where an individual had to match party choice with the same party 'preference' for seven other questions.

- Q.2c: Party identification coded as [0/1] if it matches with the party voted for
- Q.10f: Party choice in chamber elections [basis for correct voting]
- Q.12b to Q.12e: Most liked party is the party voted for [0/1]
- Q.13b to Q.13e: Most liked party leader is leader of the party voted for [0/1]
- Q.17ab to Q.17ae: Probability to vote (PTV) is highest for the party voted for [0/1]
- Q.19b: Party that best represents voters' views is the party voted for [0/1]
- Q.20b: Party leader who best represents voters' views is leader of party x [0/1]
- Q.21b to Q.21e: Policy distance is coded [0/1] if the left-right distance is smallest between the respondent's own preference and the perceived position of the party voted for in an election

In essence, correct voting is a consistency measure, where a person's party choice should tally with their preferences for parties, party leaders, policy preferences and vote intentions, as shown earlier in Figures 11.1 and 11.2. Here the central idea is that the voter who is most consistent in matching their political preferences with their reported party choice would have voted correctly. In this limited respect, an individual would have voted rationally in a subjective sense. One possible objection to this equating of a person sincerely voting for the party they preferred most is that the correct voting model ignores strategic voting. Strategic voting, or voting for a party that is not most preferred, is defined as 'incorrect voting'. Correct voting ignores important facts such as coalition and government formation considerations that are often of central concern to voters.

### *11.2.1 Projection and selection effects*

Another limitation of the correct voting definition is the practicality of asking respondents to locate each of the main parties on a left-right scale. Two concerns may be highlighted. First, respondents may not know the left-right positions of some or all of the parties. This is a topic addressed later in Chapter 13. Second, interviewees may project their own positions onto their preferred party and simultaneously place disliked parties at a distance (Koch 2008). These projections are known in social psychology as 'assimilation' and 'contrast' effects and represent systematic biases in thinking (Judd et al. 1983; Miller et al. 1986; Granberg et al. 1988; Krosnick 1990a; Rahn et al. 1994; Merrill III, Grofman and Adams 2001; Grand and Tiemann 2013). More recent research by Gabriel Lenz (2009, 2012) using panel data has shown that candidate (or

party) choice determines issue positions and not vice versa. The implication here is that issue positions are a consequence and not a cause of party choice (see also Achen and Bartels 2016: 41–49).

Lau and Redlawsk's (1997) correct voting concept ignores citizens who refused to participate in an election. There is a potential selection effect here. This is because only a subset of the electorate is examined for the impact of knowledge on (correct) vote choice. Here fact-based political knowledge is not an exogenous variable because the same motivations that lead to turnout also determine news exposure, and hence correct voting (Rubenson et al. 2004; Larcinese 2007: 388, 390–391; Denny and Doyle 2008). This exclusion of non-voters has an impact on examining the link between correct voting and objective political knowledge. This is because voters are known to be more informed than their non-participating fellow citizens. Here there are potentially two key selection effects (note Heckman 1979: 153; Achen 1986: 78–79; Sartori 2003: 114).

- Respondents with higher levels of factual political knowledge are more likely to vote correctly, so the sample examined will be composed of knowledgeable voters.
- Some highly knowledgeable respondents may have decided not to vote and therefore cannot vote correctly because they believe, for example as rational choice theory highlights, that it is not sensible to cast a ballot because single votes rarely decide election outcomes. Conversely, low knowledge respondents will be included in the analysis of correct voting because they follow the advice of more knowledgeable family members or friends, factors not measured in the post-election surveys examined.

The first selection effect indicates that the sample is biased. A more important problem arises with the second selection effect because low knowledge respondents who are included in the sample examined have large error terms in the regression model estimated. In contrast, high knowledge respondents will have model errors that have a normal range.

The key problem here is that if level of factual knowledge is correlated with social network or 'opinion leader effects' in the electorate then this is also likely to be true in the correct voting sample. If having informed family or friends does indeed determine correct voting, as Ryan (2011) shows in the US context, then there will be an underestimation of the effect of knowledge on correct voting. This is because respondents with many social connections and low knowledge will bias downwards the true impact of knowledge on correct voting.

### *11.2.2 Omitted variable bias*

The two selection effects noted above are not a problem for estimating the impact of objective political knowledge on correct voting in

two situations. First, if the factors that influence voter turnout are not correlated with the determinants of correct voting then the estimates of knowledge on correct voting will be fine. This means assuming that unmeasured characteristics of low knowledge voters being able to vote consistently are unrelated with factors that determine correct voting. Second, there are no estimation problems if all of the factors that help predict voter turnout are also included in the model that is used to explain voting correctly.

In this situation, the process in which some voters decide to participate in an election and others do not is unknown, the reason being that there are potentially many reasons why a person decides not to vote because voting is (1) for many people most of the time a 'low cost, low benefit action' and (2) turnout is a decision almost always made at the margin. Small changes in the costs and benefits of voting influence the turnout decision for many citizens (Aldrich 1993: 246, 261). There is currently no definitive model of voter turnout. Therefore, it is not possible to include all determinants of voter turnout in the correct voting model and solve the selection effects problem. In a regression model of voting the effect of the exclusion of abstainers becomes incorporated into the error term. Having an error term that is correlated with some, or all, of the independent variables in a regression model with selection (i.e. excluding non-voters) will yield inconsistent estimates. This is because the error term in the correct voting model will not have a mean of zero as required for consistent model estimates. Heckman (1979) showed that this form of selection bias has a similar effect on regression models as omitted variable bias – a point we will return to later.

One way of dealing with selection effects is to estimate 'a bivariate probit model with selection'. Here the first probit model explains (a) who decided to vote and hence vote correctly, and (b) those who decided to abstain from voting altogether. This first model contains the entire sample with no selection. The second probit model of voting correctly has selection because it only contains voters, and there are selection effects. By estimating both probit models simultaneously the correlated error effects noted above are dealt with, and the estimated parameters for the impact of objective political knowledge on correct voting should be consistent and unbiased. This is the statistical modelling approach adopted in this chapter.

### *11.2.3 Determinants of voter turnout and information effects*

In order to model the impact of factual political knowledge on correct voting properly, it is important to simultaneously account for the impact of knowledge on (a) turnout and (b) correct voting. Previous research on turnout and party choice has shown that level of knowledge boosts participation and helps explain support for specific types of parties, e.g. liberal, right-wing, and conservative. An economic theory of voting called

the ‘Swing Voters’ Curse Model’ says that non-partisan voters who could determine an election outcome have no incentive to vote even if going to the polls has no costs (Feddersen and Pesendorfer 1996, 1997, 1999; note also Kim and Fey 2007).<sup>43</sup> In other words, non-partisan or pivotal swing voters have no rational choice but abstention. This model of rational turnout makes two predictions that have a direct bearing on how objective knowledge, correct voting, and turnout are interconnected.

First, voters with no factual knowledge about an election will abstain and delegate their vote to more informed fellow citizens. With little knowledge there is little motivation to turnout. A second, counter-intuitive prediction is that a swing voter who would normally abstain (because they are uninformed) will vote when they know partisans will go to the polls. Partisans will always vote for a particular party regardless of what information is available. In such situations, an uninformed voter can be pivotal, so they are strategically motivated to vote for this reason. Laboratory research confirmed these two theoretical expectations (Battaglini et al. 2010). Research on the Swing Voter Curse Model reveals that the relationship between factual knowledge, correct voting, and turnout will be influenced by the context of elections.

In this chapter, it is argued that factual political knowledge can determine the levels of both turnout and correct voting. Within political science the relationship between political knowledge and turnout has been an important source of debate where there are conflicting predictions that high knowledge will lead to (1) ‘rational’ abstention and ignoring political news (Downs 1957; Tullock 1967), or (2) turning out to vote and paying attention to the news (Palfrey and Poole 1987; Delli Carpini and Keeter 1996; Wattenberg et al. 2000; Lassen 2005; Larcinese 2007; Smets and van Ham 2013: 354–355).

Empirical research shows that low and high knowledge citizens both vote and abstain, indicating other mediating factors are important, and this has a critical impact on correct voting. In order to avoid selection bias effects when estimating the relationship between factual knowledge and correct voting, it is necessary to estimate models of objective political knowledge effects for turnout and correct voting simultaneously. In practice, this means including factors that are known to determine turnout in the explanation of correct voting.

Here inspiration is taken from previous research on electoral participation that shows electoral participation is positively correlated with age (linear effect), possessing higher levels of education, being female, married, having a definite left-right ideological orientation, being interested

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43 The Swing Voter Curse Model predicts that election outcomes, regardless of turnout rates, almost always result in outcomes that match with what would have happened if all voters were knowledgeable and voted. This contrasts with (1) the statistical simulation work of Bartels (1996) and Althaus (1998), and (2) the correct voting research of Lau and Redlawsk (1997), which both contend that election outcomes would be different if all voters were fully informed.

in politics, thinking that who people vote for makes a big difference, being knowledgeable about politics, and having a psychological identification with any political party. A negative relationship is expected with a non-linear operationalisation of age (i.e. age squared) which takes account of the fact that turnout increases with age but declines in later years due to illness.

For the sake of brevity an overview of the determinants of turnout are not outlined in this chapter. For more details, see Geys (2006a); Blais (2000, 2006); Franklin (2004: 154, 156) and the meta-analysis undertaken by Smets and van Ham (2013). Within this chapter objective or factual political knowledge is used because a set of quiz questions have been asked in all recent post-election surveys, as described in Chapters 2 and 3.

### 11.3 Modelling Results

To reiterate, within this chapter correct voting is defined as the level of consistency between party choice and positive evaluations of the parties. The highest score on the correct voting scale occurs when a respondent reports voting for the party that scored best for all (seven) evaluations. Respondents who have complete consistency are said to have voted correctly and this is coded as a one. All other less consistent responses are coded as zero and indicate non-correct voting. This results in a simple dichotomous correct voting variable. In the Lower Chamber Election of 2006, a little more than one-third (35%) of the respondents who reported having participated in this election voted correctly. This value declined to 31% in 2010 and 29% in 2013. This downward trend in correct voting occurred as the Czech party system witnessed the emergence of new parties such as TOP 09, VV, ANO and Úsvit.<sup>44</sup> In sum, increased party instability reduced the level of correct voting.

#### 11.3.1 Nature of correct voting

An alternative interpretation of the seven indicators used to construct the correct voting score is to think of them as reflecting an underlying trait of being consistent in party evaluations and voting choice. This line of thinking suggests that the seven measures of correct voting should be inter-correlated, where consistency on one measure should be matched with consistency on the others. One way of testing for inter-correlation with a set of dichotomous measures is to use the Kuder-Richardson Formula 20 (KR-20) coefficient of reliability. The average KR-20 statistic for

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<sup>44</sup> These estimates have been weighted to match the election results plus the different sample sizes for the three election years examined. The unweighted estimates are similar: 34% in 2006, 31% in 2010 and 28% in 2013, respectively. TOP 09 refers to Tradice Odpovědnost Prosperita 2009 or Tradition Responsibility Prosperity 2009; VV – Věci veřejné or Public Affairs; and Úsvit přímé demokracie – Dawn of Direct Democracy.

all three elections examined is 0.61, which indicates a scale where the seven measures of correct voting are not strongly inter-correlated.

Additional analyses were undertaken with Mokken scaling. This non-parametric Item Response Theory (IRT) estimator assumes that a unidimensional scale may be created from a set of hierarchically ordered questions measured at the nominal level (with a 0–1 format) that are indicators of a single latent concept such as correct voting. Mokken scaling produced different results for each of the three election years. This result again indicates that the seven measures of correct voting do not form a robust scale across all polls. In sum, it is safer to assume that the survey response mechanism for the correct voting indicators is best conceptualised as a ‘score’ referring to different facets of correct voting rather than a latent scale.

### *11.3.2 Modelling correct voting and turnout*

The main goal of this chapter is to test the expectation that objective political knowledge will be a strong consistent and significant ( $p \leq .05$ ) predictor of correct voting across three general elections. The results presented in Table 11.2 have been weighted to match actual voter turnout. In addition, the model estimates take account of the fact that respondents are clustered into three elections. The Heckman Probit Selection Model in the first column of Table 11.2 reveals that there is a positive relationship between knowledge and correct voting. However, the parameter ( $b = .30$ ,  $p = .19$ ) is not statistically significant. In this situation, a belief in the importance of voter turnout and being contacted by a party during the election campaign are most strongly connected with correct voting. In contrast, almost all of the explanatory factors for voter turnout exhibit significant effects ( $p \leq .05$ ).

In Table 11.2 the rho statistic indicates the correlation between the error terms in the models of (1) correct voting and (2) voter turnout. The rho parameter is important because it indicates if the probit selection model is warranted. The Wald test of independent equations is significant ( $\chi^2 = 130$ ,  $p \leq .001$ ) also highlights that the probit selection model is required for making correct estimates. In the bottom left of Table 11.2 there is a negative and significant correlation between the error terms for the correct voting and turnout models. Again, this demonstrates that the probit selection model is a sensible modelling strategy. A key finding in the probit selection model results presented in Table 11.2 is that political knowledge has an impact on correct voting mainly through its impact on motivating voter turnout.

The main lesson from Table 11.2 is that the separate models of (1) correct voting and (2) voter turnout shown in the centre and right of Table 11.2 highlight that when these two decisions are modelled independently factual political knowledge has the powerful positive effects predicted. However, when the impact of factual knowledge on correct

**Table 11.2: A comparison of probit models of correct voting and turnout for the 2006, 2010 and 2013 lower chamber elections**

<i>Models and variables</i>	<i>Probit model with selection</i>		<i>Correct voting model only</i>		<i>Turnout model only</i>	
	<i>Coef.</i>	<i>P&gt;z</i>	<i>Coef.</i>	<i>P&gt;z</i>	<i>Coef.</i>	<i>P&gt;z</i>
<i>Correct voting model:</i>						
Interest in politics	.13	.356	.79	<.001		
Knowledge (factual)	.30	.188	.77	<.001		
Education level	-.14	.241	-.07	.387		
Choice in voting makes a difference	.38	.046	1.32	<.001		
Contacted during campaign	.10	.001	.13	.033		
Intercept	-.61	.001	-2.29	<.001		
<i>Voter turnout model:</i>						
Interest in politics	1.06	<.001			1.40	<.001
Knowledge	.85	<.001			.94	<.001
Education level	.18	.077			.27	<.001
Choice in voting makes a difference	1.02	<.001			1.08	<.001
Party attachment (level)	1.70	<.001			1.12	<.001
Left-wing orientation	.33	<.001			.25	<.001
Right-wing orientation	.48	<.001			.37	<.001
Age (linear effects)	.57	<.001			.70	.047
Age squared (nonlinear effects)	-.29	.006			-.35	.424
Female	.14	.004			.14	.001
Married	.19	<.001			.22	<.001
Intercept	-1.87	<.001			-1.80	<.001
Fisher's z transformation of rho	-1.32	<.001	NA		NA	
Rho	-.87		NA		NA	
Wald test*	130		NA		NA	
Total sample size (n)	4992		3305		5512	
Censored obs. (n)	1617		NA		NA	
Uncensored obs. (n)	3,305		NA		NA	
Wald chi <sup>2</sup> (5); chi <sup>2</sup> (11)	NA		307		1177	
Log-pseudo-likelihood	-2803		-1339		-1781	
Pseudo R <sup>2</sup>	NA		.09		.32	

Source: Czech National Election Surveys, 2006, 2010 and 2013, n=5512

Note that all models were estimated with a probit estimator as the dependent variables are (1) voted correctly or not [0/1] and (2) voted in the election or not [0/1]. Data have been weighted to reflect the actual turnout and model estimates include infor-

mation on clustering by election year, i.e. 2006, 2010 and 2013. NA refers to parameter estimates that are not available due to model specification. Difference in sample sizes between (a) the Heckman probit model with selection and (2) the probit model of turnout reflects pairwise missing cases. This is due to respondents indicating they voted but not which party they supported, level of party attachment, etc. \* Wald test of independent equations ( $\text{Rho}=0$ ):  $\text{chi}^2(1)$ ,  $p \leq .001$ .

voting takes the turnout decision into account, then knowledge is not so important in explaining why around a third of Czechs voted correctly. In general, the strength of the parameter estimates for the combined correct voting and probit selection models are lower than the separate correct voting and turnout models. This result reveals that when turnout and vote choice are modelled simultaneously many explanatory variables have partial effects mainly linked with the initial decision to turn out to vote.

### *11.3.3 Election-specific effects*

An exploration of election specific models for 2006, 2010 and 2013 reveals a similar set of patterns to those noted for Table 11.2. In addition, the strengths of the model parameters are often higher for the separate correct voting and turnout models. However, each of the elections examined exhibits some important differences suggesting that the context of each of these polls was important in mediating the effect of objective political knowledge on correct voting. For example, Table 11.3 reveals that the Lower Chamber Elections of 2006 were unique in that the probit selection model results show that factual knowledge has a significant impact on correct voting ( $b=.60$ ,  $p=.002$ ) and turnout ( $b=.89$ ,  $p \leq .001$ ): this pattern does not occur for the 2010 and 2013 elections. The campaign for the 2006 elections was unique in having strong left-right polarisation, indicating that correct voting was determined in this poll by factual political knowledge and interest in politics.

The Czech Lower Chamber Election of 2010 was unique for two reasons. First, there was the emergence of new political parties, or populist movements, on the centre-right such as TOP 09 and VV. Second, there were sharp declines in support for the two largest parties, ODS and ČSSD. Additional work reveals that the strong link between objective political knowledge and correct voting weakens with the inclusion of more explanatory variables: level of education, interest in politics, belief that voting makes a difference, and being contacted during the campaign. The probit selection models of correct voting and turnout for the 2013 elections (not reported) show that correct voting had a distinctive 'non-cognitive' (or affective) aspect where interest in politics and factual knowledge did not have statistically significant effects ( $p \geq .05$ ).

**Table 11.3: A comparison of probit models of correct voting and turnout for the 2006 lower chamber elections**

<i>All models</i>	<i>Probit model with selection</i>		<i>Correct voting model only</i>		<i>Turnout model only</i>	
	<i>Coef.</i>	<i>P&gt;z</i>	<i>Coef.</i>	<i>P&gt;z</i>	<i>Coef.</i>	<i>P&gt;z</i>
<i>Correct voting model:</i>						
Interest in politics	.41	.019	.94	.176		
Knowledge (factual)	.60	.002	1.03	.195		
Education level	-.09	.456	-.06	.129		
Choice in voting makes a difference	.24	.288	1.20	.199		
Contacted during campaign	.05	.496	.07	.088		
Intercept	-.84	.002	-2.40	.193		
<i>Voter turnout model:</i>						
Interest in politics	1.14	<.001			1.44	<.001
Knowledge	.89	<.001			1.02	<.001
Education level	-.05	.727			.07	.633
Choice in voting makes a difference	1.67	<.001			1.70	<.001
Party attachment (level)	1.51	<.001			.88	<.001
Left-wing orientation	.39	<.001			.27	.013
Right-wing orientation	.34	<.001			.28	.006
Age (linear effects)	.83	.177			1.18	.052
Age squared (nonlinear effects)	-.46	.544			-.65	.396
Female	.17	.026			.11	.158
Married	.18	.026			.22	.010
Intercept	-2.04	<.001			-2.22	<.001
Fisher's z transformation of rho	-1.16	<.001	NA		NA	
Rho	-.82		NA		NA	
Wald test*	50		NA		NA	
Total sample size (n)	1830		1303		2002	
Censored obs. (n)	527		NA		NA	
Uncensored obs. (n)	1303		NA		NA	
Wald chi <sup>2</sup> (5); chi <sup>2</sup> (11)	18		143		476	
Log-pseudo-likelihood	-1352		-703		-747	
Pseudo R <sup>2</sup>	NA		.10		.39	

Source: Czech National Election Survey, 2006, n=2002

Note that all models were estimated with a probit estimator as the dependent variables are (1) voted correctly or not [0/1] and (2) voted in the election or not [0/1]. Data have been weighted to reflect the actual turnout in 2006. NA refers to parameter estimates

that are not available due to model specification. Difference in sample sizes between (a) the Heckman probit model with selection and (2) the probit model of turnout reflects pairwise missing cases. This is due to respondents indicating they voted but not which party they supported, level of party attachment, etc. \* Wald test of independent equations ( $Rho=0$ ):  $\chi^2(1)$ ,  $p \leq .001$

The Lower Chamber Election of 2013 was marked by two developments. First, there was the emergence of a new populist political movement with a centrist and liberal orientation called ANO (this acronym originally referred to ‘Akce nespokojených občanů’; however, ‘ano’ also means ‘yes’ in Czech). ANO, as the second largest party in parliament, subsequently entered into a coalition government with ČSSD. Second, there was a collapse in support for ODS from 20% in 2010 to less than 8% in 2013. Between 1992 and 2010, ODS had been the largest party on the right, and the collapse in its vote in 2013 was a major event. The fragmentation of the electorate evident in the 2010 elections increased in 2013, suggesting that Czech politics is evolving into a system of ‘floating voters’ and abstainers.

Under such circumstances the definition of ‘correct voting’ begins to break down. This is because there is little consistency between political attitudes such as party attachment and vote choice. Voters, if they vote at all, are casting their ballots using election-specific criteria. A central feature of all the regression models discussed in this subsection is that objective political knowledge had only a significant impact ( $p \leq .05$ ) on correct voting in the Lower Chamber Election of June 2006. Why is this the case? It was argued earlier, with regard to Figure 11.1, that electoral context could be important in observing the presence of knowledge effects on correct voting. The thinking here is that more polarised election campaigns create incentives and opportunities for electors to cast ballots consistent with partisan and policy preferences.

#### *11.3.4 The electoral context of correct voting and turnout*

One contextual factor that should mediate the link between factual political knowledge and correct voting relationship are the policy platforms presented to voters during election campaigns. If parties offer the electorate polarised positions regarding ideology and policy positions, then it is likely that voters’ knowledge of their partisan and policy preferences will have a greater impact on party choice. Conversely, if most of the main parties adopt centrist ideological and policy positions, then voters will be motivated to differentiate between parties on the basis of other attributes, resulting in lower levels of correct voting.

Therefore, it is reasonable to argue that the ideological polarisation of a party system provides an important informational context that

could mediate (a) the determinants of voter turnout and (b) the relationship between a voter's level of factual knowledge and party choice. In other words, one would expect that a more polarised system of electoral competition will motivate political learning and ideological voting. In the penultimate section of this chapter, use will be made of this idea to explore whether a more polarised electoral context might explain a stronger link between objective political knowledge and correct voting in the 2006 elections.

Here it is important to stress that use of a mass survey to estimate party system polarisation is inappropriate. This is because such an approach would involve explaining voters' left-right orientation using the same data to measure individual (left-right self-placement) and aggregate (party system polarisation) effects. Because of this causal endogeneity concern, it makes sense to use (independent) Comparative Party Manifesto (CMP) data to estimate party system polarisation. In this respect, the CMP scales discussed in the previous section provide an ideal source for making estimates of polarisation for all 8 elections between 1990 and 2013.

One well-known method of estimating party system polarisation is to take the range of the most extreme ideological, or policy, positions adopted by parties competing in a specific election. This approach has been criticised for two reasons. First, it does not capture many of the important characteristics of polarisation such as the relative size and electoral importance of parties. Second, it takes no account of parties' relative positioning in a unidimensional space. A more comprehensive model of polarisation using an axiomatic approach was originally formulated by Esteban and Ray (1994) and developed later by Duclos, Esteban and Ray (2004).<sup>45</sup>

In this subsection, an alternative measure of bipolarisation derived by Foster and Wolfson (2010) is also reported because there is good reason to think that a bipolar (right vs left) conceptualisation of the Czech party system is a reasonable representation of the nature of party competition. It is important to stress from the outset that in Table 11.4 many of standard error (SE) estimates for the polarisation and bipolarisation measures are large. This indicates that the differences observed across elections may not be meaningful. In short, there are limits to using MPD data for making inferences about trends in polarisation and bipolarisation. With this caveat in mind, the results presented in Table 11.4 reveal that right-left polarisation peaked in 1992 and declined thereafter. In contrast, bipolarisation increased between 1990 and 1998 and thereafter declined (with the exception of the 2010 election). In Table 11.4, the 'alienation' column estimates refer to heterogeneity between rival parties in a specific election year on the basis of policy position while the 'identification' data reveal the extent to which parties' policy positions

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45 An earlier version of this material is presented in Linek and Lyons (2013: 89–91). Please see this text for more details.

**Table 11.4: Left-right polarisation of the Czech party system, 1990–2013**

<i>Election</i>	<i>Duclos, Esteban and Ray (2004) estimator</i>					<i>Foster &amp; Wolfson (2010) estimator</i>	
	<i>Polarisation</i>	<i>SE</i>	<i>Alienation</i>	<i>Identification</i>	<i>Correlation</i>	<i>Bipolarisation</i>	<i>SE</i>
1990	.024	.025	.529	.049	-.062	.137	.264
1992	.062	.010	.366	.173	-.017	.357	.228
1996	.046	.012	.591	.079	-.007	.747	.542
1998	.034	.026	.962	.037	-.030	.812	1.086
2002	.023	.028	1.956	.012	-.024	-.981	2.119
2006	.008	.357	>5.000	<.001	-.031	-3.206	14.794
2010	-.030	.027	-2.896	.011	-.040	1.550	3.414
2013	-.058	.012	-0.438	.133	-.009	-.441	.385
<i>1990–2013</i>	<i>.049</i>	<i>.016</i>	<i>3.324</i>	<i>.017</i>	<i>-.135</i>	<i>2.067</i>	<i>2.269</i>

Source: Czech waves of the (full) Manifesto Project Dataset (MPD), 2015

Note estimates are based on the MPD right-left (RILE) scale. The polarisation sensitivity parameter ( $\alpha$ ) was set to 1.3 – a value that matches with original the theory outlined in Esteban and Ray (1994) and used also by Indridason (2011: 714, fn.7) for similar purposes as here. The Foster and Wolfson estimator (2010) provides an alternative ‘bipolarisation’ indicator and is used here to cross-validate the Duclos, Esteban and Ray (2004) ‘polarisation’ measures. The alienation and identification measures represent a decomposition of the polarisation estimate. See text for details. SE refers to standard error estimates.

in a specific election year tended to be similar. Finally, the figures in the penultimate ‘correlation’ column of Table 11.4 show the association between ‘alienation’ and ‘identification’ estimates.

Table 11.4, shows that alienation or policy differences predominated over similarity (or identification), and both components of Duclos, Esteban and Ray’s (2004) polarisation estimate are negatively correlated. Overall Table 11.4 shows two contrasting trends: (a) an increase in bipolarisation (1990-1998) and alienation (1992-2006), and (b) a decline in polarisation (1990-2013) and identification (1992-2006). These opposing tendencies suggest that the 2006 election was unique especially in terms of ‘alienation’ or heightened party policy differences.

This finding makes intuitive sense as one would expect objective political knowledge to have its clearest impact on correct voting where (a) the ideological signals are strong, and (b) the electoral stakes are

high. Elections prior to 2006 became progressively less polarised in left-right terms. This fact hints that even those with high levels of factual knowledge were casting ballots less on the basis of partisan and policy considerations, and more on the basis of other factors such as strategic voting for smaller centre-right parties such as the Union of Freedom (US-DEU) and the Christian Democrats (KDU-ČSL). The Czech general elections of 2010 and 2013 were marked by the emergence of small new centrist parties: conditions that tended to attenuate correct voting and the latter's association with political knowledge effects.

## Conclusion

This chapter has shown that factual political knowledge does not always help to explain if individual voters vote correctly. Analyses of the three most recent Czech lower chamber elections are important because they show that citizens having higher levels of objective political knowledge are better able to link their evaluations of parties with their party choice in elections. Lau and Redlawsk (1997, 2006), the scholars who developed the concept and operationalisation of 'correct voting', view correct voting as evidence of 'subjective rational behaviour', where citizens vote on the basis of their own perceived best interests. In other words, voters support parties at the ballot box for sensible reasons.

The modelling results presented in this chapter are important because they show that both factual political knowledge and interest in politics are key determinants of correct voting. These findings complement the insights of Jeremy Bentham (1843) whose pragmatic (or utilitarian) perspective contends that the benefits of factual knowledge depend critically on the costs of obtaining it. Over a century later, Anthony Downs (1957), in his *Economic Theory of Democracy*, extended this argument by contending that there are circumstances where it would not be rational for a voter to seek out political knowledge. Here a pragmatic conception of political knowledge, discussed earlier in Chapter 1, is evident. The concept of correct voting developed by Lau and Redlawsk (1997, 2006) may be interpreted as an attempt to 'rescue' the idea that voters can, and do, vote 'rationally' (but not in the Downsian sense) because a subset of voters can be shown to cast ballots that reflect their interests. Here the central idea, as noted earlier, is that citizens vote in their self-interest if they vote consistently with a key set of political attitudes.

An equally important methodological point made in this chapter is that examinations of the determinants of correct voting often exclude non-voters because abstainers by definition cannot vote correctly. The problem here is that some of the factors that explain correct voting also shape who votes and who doesn't, and not taking this into account can lead to invalid inferences.

Finally, in this chapter, we have seen that political knowledge has a more consistent (positive) impact on turnout than voting correctly. This

is important because it shifts the importance of factual political knowledge away from party choice to the initial decision to turn out to vote. The implication here is that possession of factual knowledge underpins the democratic ideology of electoral participation. If this is the case then ability to correctly recall political facts in a survey interview is evidence of a particular form of political socialisation rather than an ability to make correct electoral choices.

Benjamin Highton (2009) makes a similar point with regard to the impact of education on political sophistication, where attendance at college does not make young voters more knowledgeable. Higher knowledge is evident before attendance at college. This means that a key determinant of factual political knowledge is family background and political socialisation: factors that cannot, unfortunately, be explored in the post-election surveys used in this book. Highton underscores the important point that correlation between education and political knowledge is spurious because both factors are shaped by a common cause: socialisation in the family.

# Chapter 12: Objective Political Knowledge and Prediction

Those who have knowledge, don't predict. Those who predict, don't have knowledge.

Lao Tzu (c.604–531 B.C.), *The Book of the Way*

I always avoid prophesying beforehand because it is much better to prophesy after the event has already taken place.

Winston Churchill, Press Statement, February 1, 1943.

My approach represents a sharp shift away from case specific 'idiographic' knowledge (who gets what right at specific times and places?) toward more generalizable 'nomothetic' knowledge (who tends to be right across times and places).

Philip E. Tetlock (2005: 8 fn. 13)

## Introduction

One of the justifications for employing experts, who by definition have high levels of objective or factual knowledge, is their ability to correctly predict the future. The media regularly discuss economists' predictions of how unemployment, inflation, and economic growth will change in the next six or twelve months. Governments employ small armies of experts to advise them on how best to plan for the best possible future. The global financial and economic crisis that occurred in late 2008 demonstrated that economic forecasts are not always reliable and can in fact fail to predict very big and important events such as the near collapse of the international financial system.

Truth be told, experts' predictions of future political events is also not very impressive. Philip E. Tetlock (2005), in a study of 284 political experts who made 82,261 predictions over a twenty-year period, found a poor forecasting record especially among experts who appeared often in the media. Tetlock discovered that people with 'specialist' with detailed knowledge were worse at predicting than 'generalists' with broad knowledge. These two groups were labelled 'hedgehogs' and 'foxes', respectively: metaphors for knowledge and expertise discussed earlier in Chapters 1 and 10.

Subsequent research by Tetlock, a psychologist at the University of Pennsylvania, involved asking about 794 members of the general public (with at least an undergraduate degree) to make 150,000 forecasts about 199 topics over a two-year period. Within this group the best forecasters were those who:

[...] were better at inductive reasoning, pattern detection, cognitive flexibility, and open-mindedness. They had greater understanding of geopol-

itics, training in probabilistic reasoning, and opportunities to succeed in cognitively enriched team environments. Last but not least, they viewed forecasting as a skill that required deliberate practice, sustained effort, and constant monitoring of current affairs.

The main lesson from this research on forecasting is that ordinary people can be as good, if not better, than experts at correctly predicting what will happen in the future. The Images of the World in the Year 2000 survey undertaken in Czechoslovakia in June 1967 asked more than a thousand people, aged 15 to 40 years old, to forecast two types of trends over the following three decades.

- (1) What will be scientifically possible in the year 2000?
- (2) What will be the social trends in the year 2000?

These two prediction questions are important because they facilitate exploring young citizens' abilities, in the late 1960s, to think about the distant future in two different realms. On the one hand, forecasts of scientific advances refer to developments that can be verified as being possible by 2000. Predictions of social trends are much more difficult to evaluate. This is because there is not always evidence or data available to say, for example, that 'In 2000 people will be more similar or less similar to each other than they are today'.

In order to deal with this constraint, this chapter will use the sociological concept of *anomie* and the general conclusion of social scientists that European societies did become more individualistic and less guided by collective values originating in religious and other social institutions between 1970 and 2000. Respondents who answered the dozen and a half questions in a way that forecasted greater anomie were classified as having given an accurate forecast.

As will be described in later sections, many respondents in the Images of the World in the Year 2000 survey believed that their society at the millennium would be characterised by three defining characteristics of anomie: (1) social rules and norms would be less important, (2) individuals would have greater personal freedom, and (3) there would be less weaker bonds between family and friends.

This chapter uses the advantages offered by a decades-old survey to look back today at predictions made almost half a century ago and see who was better at forecasting scientific advances and societal change by the year 2000. This is important for two reasons. First, if political knowledge is useful for citizens it should be associated with greater ability to know the present and predict the future. Second, with hindsight it is possible to discover which citizens are better able to predict the future in different areas. This chapter will show two things. First, citizens' ability in the late 1960s to predict future scientific advances in 2000 was not very good and depended more on style of thinking than level of objective or

factual knowledge. Second, people with higher levels of objective political knowledge were better at forecasting anomie.

The evidence presented in this chapter is structured as follows. Section 1 discusses forecasts of what was felt in 1970 would be scientifically possible in 2000, and how the impact of having optimistic beliefs about scientific advances reduced citizens' forecasting abilities. Here the key focus is on a person's style of thinking and more particularly on being (a) open-minded (i.e. not dogmatic) and (b) critical of government policy. Section 3 presents the modelling results of predictive ability for science and social trends by the year 2000, where the explanatory variables are based on the Motivation-Ability-Opportunity (MAO) model used in previous chapters. In the concluding section, there are some comments about the lessons to be learned from a comparative analysis of the link between level of political knowledge and predictive ability in the areas of scientific and social developments three decades into the future.

### **12.1 Ability to Forecast Scientific Advances by the Year 2000**

In the Images of the World in the Year 2000 survey of more than eight thousand young people in eight countries, which spanned the Cold War divide in the late 1960s, were asked to forecast what would be scientifically possible in 2000. The list of seven questions asked are given in Table 12.1, which also shows the correct forecast answers.

Table 12.1 reveals that by the 'millennium' (2000) the factual answer to almost all of the questions was 'no'. Additional empirical work shows that a majority of Czechs were not very good at predicting the level of scientific knowledge three decades in the future. A majority of Czechs achieved just one correct prediction out of seven questions posed. A majority of young Czechs (aged 15 to 40 years) interviewed in June 1967 correctly predicted that science would make it possible to select the sex of an unborn child by the year 2000. Such a low success rate was not unique to Czechs. In the other seven European countries studied, a majority attained two or fewer correct predictions out of seven questions asked.

Taking all of the questions together: 12% of Czechs were incorrect in all their predictions, 38% had one correct forecast, 29% had two correct forecasts, 14% had three, 6% had four, 1% had five, and none had 6 or 7 correct predictions. Comparing the predictive abilities of young people across different countries the best were the Dutch and British who on average made three correct forecasts, and they are followed by the West Germans, Norwegians, Finns and Slovenians with two correct predictions, and finally there were the Czechs, Slovaks and Spanish with one correct forecast. A little more than one-third of those interviewed made three or more correct forecasts.

What these results reveal is that correctly forecasting the future of science and technology was an ability that only a minority of about one

**Table 12.1: Scientific prediction questions asked in Czechoslovakia in June 1967**

<i>Prediction questions asked between 1967 and 1970</i>	<i>Was it possible in 2000</i>
Q16A1: In 2000 scientific knowledge will make it possible to decide in advance the sex of one's child?	Yes
Q16B1: In 2000 scientific knowledge will make it possible to decide major features of the personality of one's child?	No
Q16C1: In 2000 scientific knowledge will make it possible to cure dangerous diseases like cancer?	No
Q16D1: In 2000 scientific knowledge will make it possible to decide in advance the economic development of a country?	No
Q16E1: In 2000 scientific knowledge will make it possible to organise the world so that there will be no wars?	No
Q16F1: In 2000 scientific knowledge will make it possible to decide in advance what the weather will be like?	No
Q16G1: In 2000 science will make it possible to go to other planets (not including the moon)	No

Source: Images of the World in the Year 2000 survey, 1967–1970

Note the response options were (1) yes, (2) uncertain, (3) no, and (4) don't know or no answer. Answers to these questions were coded as being correct (1) or incorrect (0).

Notes:

Q16A1: The Ericsson method for human embryo sex selection was developed in the 1970s and has a 70–72% success rate for boys and a 69–75% success rate for girls. The MicroSort method introduced in 1990s involves sperm sorting. After sorting, the average purity of MicroSort samples is 91% for girls and 74% for boys. In terms of the number of babies of the desired gender born, MicroSort has been 93% effective for girls and 82% effective for boys. MicroSort does not guarantee a baby of the desired gender, but the technology is scientifically proven to significantly increase the likelihood of conceiving a baby of the desired sex. In addition, during the 1980s sex selection methods based on a pre-implantation genetic diagnosis were developed.

Q16C1: The question was formulated in a vague way. For some diseases and cancers treatments were developed between 1970 and 2000. Here it is important to stress that the term 'cancer' refers to a general class of diseases, and it is unlikely that a single cure for all types of cancer will be ever be developed.

in three young Europeans possessed when interviewed in the late 1960s. Why were so few people able to predict scientific advances correctly? One answer to this question is that it is impossible to make correct predictions of anything three decades into the future. This is a reasonable point because change of all types is shaped by many factors whose specific impact is difficult to understand in advance. Another answer is that prediction of general scientific trends was possible and the reason for

limited predictive success is linked to how young adults in the late 1960s viewed science.

### 12.1.1 *Forecasting and optimism*

In the post-war period there was a strong belief that science and technology were capable of making rapid advances and this generated a general sense of optimism that anything was possible. This sense of optimism was especially evident in the space explorations programmes of the Cold War superpowers: the USSR and the USA.

This optimism about science, on both sides of the Iron Curtain, is important in the context of this chapter because those interviewed might have believed that with technological progress everything would be possible by the year 2000. This would help to explain why large majorities in all countries answered ‘yes’ to all of the prediction questions. Optimism about the potential of science to allow parents to select desirable attributes in their children, cure cancer, create universal wealth, abolish wars, predict the weather, and facilitate inter-planetary travel within thirty years may seem naïve today. During the 1960s there were many science experts predicting these kinds of things and publishing their predictions in articles and books. Ironically, in the year 2000 public understanding of science was much more sceptical and critical in the areas of climate change, genetically modified crops, and nanotechnology (Durant et al. 2000: 99–100).

From the point of view of studying the relationship between knowledge and prediction, the presence of values that promote optimism or pessimism toward science may mediate the knowledge-prediction relationship. This is because individuals may not use their knowledge to make predictions, but base their forecasts on core beliefs such as egalitarianism and individualism. For example, Dan M. Kahan using the ‘Cultural Cognition Thesis’ shows that both values and factual knowledge are involved in public acceptance of scientific forecasts about the consequences of man-made climate change. Here highly knowledgeable people reject scientific conclusions because it contradicts their core beliefs (see Kahan et al. 2012; Kahan 2015). If a person’s beliefs are important in evaluating scientific evidence, then the link between knowledge and prediction might be weak or non-existent.

In this chapter, use will be made once again of the Motivation-Ability-Opportunity (MAO) explanatory modelling framework introduced and used in earlier chapters to explore the determinants of ability to correctly predict scientific developments in 2000. The reasoning here is that ability to predict the future should also depend in critical ways, as explained in earlier chapters, on *motivation* to give correct predictions, *ability* to give a correct answer as indicated by level of education, and *opportunity* to know enough about science to give a correct forecast.

### Box 12.1: Why is anomie important for social prediction?

A central theme of social thinking has been the idea that some of the social changes associated with industrialisation create 'pathologies' that undermine the meaning of life for individuals. One important effect of industrialisation is the commodification of people, objects and culture. This concern with the pathologies of modernisation is evident in classical social theory. In fact, many of the social theorists of the nineteenth and early twentieth centuries made pessimistic forecasts of social change based on their observations of the effects of the industrial revolution on European societies.

This 'social forecasting' of increasing disorganisation in society is evident in Émile Durkheim's (1858–1917) concern with anomie and egoism on the one hand and his worry about the impact of differentiation and fragmentation in society on the other. Such general worries about a decline in the quality of social relations in society are also present in Karl Marx's (1818–1883) study of alienation and ideology; Georg Simmel's (1858–1918) investigations of feelings of social isolation and self-alienation; Adam Smith's (1723–1790), August Comte's (1798–1857) and Herbert Spencer's (1820–1903) worries about social fragmentation in advanced economies; and Max Weber's (1864–1920) analyses of rationalisation and the privileging of efficiency over all other types of motivation for behaviour.

#### *What is anomie?*

The term comes from the Greek word 'a-nomos', meaning without laws, mores, and traditions. In sociology, the concept refers to absence of norms and of the constraints these provide. Émile Durkheim in *The Division of Labour in Society* (1893 [trans. 1997]) described how the division of labour undermines social cohesion because traditional methods for ensuring conformity to prevailing norms and behaviour disappear and are not replaced with something new. He calls this condition the anomic division of labour. Later in his study of *Suicide* (1897 [trans. 1951]), Durkheim wrote that anomic suicide results from inappropriately low levels of social regulation. Rapid economic change leading to booms and busts was seen to be a source of anomie. For Durkheim, anomie is a feature of social structure and not of individual persons. In contrast, David Riesman in his book *The Lonely Crowd* (1950) regarded anomie as a psychological feature of individuals. Later, Robert K. Merton, in *Social Theory and Social Structure* (1968) distinguished between the origins of anomie and its effects on individuals. Although, Merton felt that the psychological impact of anomie was important, he opposed the idea that anomie had a psychological source. Merton revised Durkheim's notion of anomie in two respects. First, Merton argued that anomie arises when there is the absence of norms, and also when there is competition between norms. Second, Merton also felt that anomie could have both positive and negative effects and was not purely a social pathology as Durkheim argued.

#### *The link between predictions of anomie and the future*

The concept of anomie in Durkheim's (1893) early work focuses on how economic and technological change can lead to social dislocation when the norms, values and beliefs in society lose their force in regulating social behaviour. When respondents in the Images of the World in the Year 2000 survey were asked around 1970 to forecast what society would be like at the millennium there were few survey-based studies of anomie. In general, social scientists think that the level of anomie in European societies increased between 1970 and 2000 (e.g. Boltanski and Chiapello 2007).

Forecasts of greater anomie, which is what many sociologists think happened in the late twentieth century, provide a means of testing individual's predictive ability in a domain, i.e. society, which everyone experiences on a daily basis. Individuals with higher levels of political knowledge should be better social forecasters than all others. This is because having factual knowledge facilitates interpreting the future consequences of current decisions at the individual and collective levels. Here there is the interesting idea of citizens being treated like 'expert' social scientists and evaluated in terms of their forecasting ability.

### *12.1.2 What type of individual is good at forecasting?*

Who are the 'super forecasters' that are able to correctly say the level of scientific knowledge three decades into the future? The modelling results presented later in Tables 12.3 and 12.4 show that those who were better forecasters were both open-minded and critical. This fits with what Philip E. Tetlock found when examining the profiles of what type of people consistently make the most accurate political predictions. An overview of what factors make some people better forecasters than others is given in Box 12.1, where it is clear that having high levels of factual knowledge is not of central importance.

Box 12.1 shows that good forecasting involves gathering evidence from a variety of sources, thinking probabilistically, taking advice from others, keeping track of prediction results, and being willing to admit error and change choices. In sum, it is not factual knowledge itself, but the ability to use facts to make inference which is most important.

Tetlock (2005) in his research on political experts found that simple statistical formulas had a better forecasting record than all the academics and pundits he interviewed over three decades. However, not all experts (and citizens) are the same. Some people are better than others at forecasting, and the key difference appears to be in style of thinking. Here style of thinking was considered in terms of experts who have deep specific knowledge, who are called 'hedgehogs', and generalists who possess a broad range of knowledge about many things, who are labelled 'foxes'. Tetlock (2005: 73) outlined which style of thinking he found was associated with low and high predictive success in the following way.

Low scorers look like hedgehogs: thinkers who 'know one big thing,' aggressively extend the explanatory reach of that one big thing into new domains, display bristly impatience with those who 'do not get it,' and express considerable confidence that they are already pretty proficient forecasters, at least in the long term. High scorers look like foxes: thinkers who know many small things (tricks of their trade), are skeptical of grand schemes, see explanation and prediction not as deductive exercises

but rather as exercises in flexible ‘ad hocery’ that require stitching together diverse sources of information, and are rather diffident about their own forecasting prowess.

The key point here is that individuals with closed-styles of thinking, as indicated on a dogmatism scale, should be less good at predicting the future of scientific developments than all others. This is because like the hedgehogs described above they ignore new information that does not fit with their current knowledge or cognitive biases. This implies that style of thinking, such as dogmatism, might be more important in determining who was a better forecaster of scientific advances than level of knowledge.

If style of thinking rather than knowledge is more important this shows an important limit to having factual knowledge. Just as experts (hedgehogs) were less able to predict future political events in Tetlock’s (2005) study, it could be that those young people interviewed in the Images of the World in the Year 2000 survey in the late 1960s who were more open-minded (and less dogmatic) would have made better forecasts of scientific advances.

Asking citizens, most of whom are not scientists, to predict advances in science three decades into the future could be considered an unfair way of evaluating the link between political knowledge and predictive ability. Some researchers on prediction have argued that prediction beyond a year or two into the future is the limit beyond which there can only be guessing (Tetlock and Gardner 2015). To address this concern, it makes sense to also study something that all citizens would be familiar with. Forecasts of key social trends such as anomie will also be used to look at the link between knowledge and predictive ability.

## 12.2 Ability to Forecast Social Trends

In the Images of the World in the Year 2000 survey fielded between 1967 and 1970 the key goals were to see how the younger generation (aged 15 to 40 years old) viewed the future (in the year 2000) in terms of (a) science and technology, (b) war and peace, and (c) social trends. There are factual answers to (a) and (b), but the correctness of predictions for (c) is less clear-cut because of the way in which the questions were framed. In this chapter use will be made of the idea of *anomie* to construct a social trends scale. One definition of anomie given by the influential American sociologist Robert K. Merton (1964: 227) is the following.

[...] the degree of anomie in a social system is indicated by the extent to which there is a lack of consensus on norms judged to be legitimate, with its attendant uncertainty and insecurity in social relations.

However, it is important to be aware that anomie has no definitive meaning or theory: a point highlighted in Figure 12.1, which shows how two

**Figure 12.1: A comparison of Émile Durkheim's and Robert K. Merton's conceptions of anomie**

<i>Comparisons</i>	<i>Émile Durkheim (1858–1917)</i>	<i>R.K. Merton (1910–2003)</i>
<i>Similarities</i>		
Existence	Anomie is prevalent in dynamic transitional societies	Anomie is common in stable democratic societies
Definition of anomie	Normlessness, broad, including both utilitarian and non-utilitarian behaviour	Normlessness, narrow and utilitarian, a lack of consensus on norms judged to be legitimate
Characteristics	Anomie relates social circumstances to individual psychological states for both Durkheim and Merton	
Deviance and suicide*	A state of deregulation is a factor making for departures from established standards. Higher rates of suicide and deviance are to be expected under anomie for both Durkheim and Merton	
<i>Differences</i>		
Origins of anomie	Rapid industrialisation combined with less swift social change	Institutionalised and culturally promoted social goals in a democratic society
Conception of human nature	Human appetite is naturally insatiable	Human appetite has social rather than natural origins
Evaluation of anomie	In organic society, anomie is a pathological phenomenon which should be resisted	Limited anomie is normal and is a permanent part of a democratic society
Empirical basis	French society in the nineteenth century	The USA in the twentieth century

Source: derived from Zhao and Cao (2010: 1213)

\* See Passas (1995)

of the most influential developers of the anomie concept used it differently in their writings and empirical studies.

Notwithstanding academic debates over the origins and nature of anomie, most scholarly uses of the anomie concept refer to a general social process whereby the norms and values of the past weaken, leading to a decline in the integration of the individual into their family, community, and society. A more succinct usage is simply a decline in the power of social rules, morals, and values to control individual attitudes and behaviour. In terms of this general interpretation of anomie, the general consensus among social scientists is that anomie increased in

all European societies after 1970. For example, Boltanski and Chiapello (2007: 421) concluded in their study of contemporary capitalism that:

[...] all the indicators in which Durkheim taught us to read the signs of anomie have been on the increase since the second half of the 1970s. This may be interpreted not only as a mechanical result of the growth in job insecurity and poverty, but also as the mark of an elimination of the purchase that people can have on their social environment, with a consequent fading of their belief in the future as a vanishing point which can orientate action and thus retrospectively confer meaning on the present.

Consequently, in this chapter the correct answer key for all anomie predictions made by the respondents in the Images of the World in the Year 2000 survey is that an increase in anomie actually occurred. Given the broad nature of anomie, there is no definitive survey data that can be used to empirically show that anomie did increase for the specific set of indicators used in the countries participating in the Images of the World in the Year 2000 survey. Moreover, in communist countries such as Czechoslovakia there is no survey evidence for anomie during the 1970s and 1980s.

Consequently, the view that social anomie increased in Europe between 1970 and 2000 may be inferred inductively from international datasets such as the European and World Values Surveys (e.g. Zhao and Cao 2010; Schaible and Altheimer 2016). Durkheim's deductive prediction that anomie should increase during times of rapid change in society suggests that there is strong reason to think that the economic and technological changes of the 1970s and 1980s did increase levels of anomie.

### *12.2.1 Creating an anomie scale*

Accepting that anomie did increase between 1970 and 2000 in all of the European societies examined in this chapter, this fact provides a means of testing individuals' skill at forecasting a key social trend. In the Images of the Year 2000 survey there is a set of eighteen social trend questions that may be classified as indicators of the extent to which the respondent thought their society in 2000 would be characterised by greater anomie.

Table 12.2 presents a list of these anomie questions and shows the broad range of issues examined, which range from personal happiness to family relationships, work, religion, criminality, drug use, and mental health problems. All of the questions have been classified, as shown in Table 12.2, to reflect a forecast of greater anomie. Concretely, each social forecast question was coded to match Durkheim's and Merton's conceptions of anomie. The questions may be classified into two distinct social anomie trends; the first takes the individual perspective and the second a collective one.

**Table 12.2: Social trends indicating greater anomie in society**

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*Social trend indicating greater anomie: 'In 2000...'*

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Q13a: people will be less happy than they are today?

Q13b: people will be less interested in inner experiences and inner life than they are today?

Q13c: people will enjoy their work less than they do today?

Q13d: people will believe less in their religion than they do today?

Q13e: people will be more interested in material things like cars etc. than they are today?

Q13f: people will be more interested in social success than they are today?

Q13g: people will be less kind to each other than they are today?

Q13h: people will be less interested in having really good friends than they are today?

Q13i: there will be more sexual freedom for young people than there is today?

Q13j: people will be less attached to their families than they are today?

Q13k: there will be more divorce than there is today?

Q13l: people will have more leisure time than they have today?

Q13m: there will be more unemployment than there is today?

Q13n: people will be less similar to each other than they are today?

Q13o: there will be more differences between people high up and low down in society?

Q13p: there will be more mental illness than there is today?

Q13q: there will be more use of narcotics and drugs than there is today?

Q13r: there will be more criminality than there is today?

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Source: Images of the World in the Year 2000 survey question 13.

Note the coding of all the items in question 13 is based on the following definition of anomie given by Nollmann and Strasser (2007: 20): 'The term anomie — literally translated, without law — signifies a state of normlessness, irritation, confusion, and breakdown. Durkheim assumes that anomie will be found in times of increased social change when traditional values no longer have their binding authority and the new norms do not yet have enough power to guide human behavior.'

- Less happiness, idealism, satisfaction with work, religious belief, spiritualism, kindness to others, interest in having good friends, family attachments, and similarity to others.
- More materialism, social climbing, divorce, leisure time, unemployment, sexual freedom, differences between those with low and high status, mental illness, drug use, and criminality.

A key consideration here is the validity of viewing all eighteen (recoded) questions as indicators of an underlying general factor labelled 'anomie'. It is possible that the answers provided reflect specific themes such as 'success in social and material terms' or 'interpersonal relations'. It is also possible that the eighteen anomie indicators are not strongly inter-correlated. This would be evidence that there is no overarching general process such as anomie. Consequently, statistical analyses were undertaken to determine if the answers to all eighteen anomie indicators could be considered part of a single latent anomie scale.

Since the anomie questions are nominal level indicators it is necessary to use specific statistical techniques such as bifactor, latent class analysis, and Mokken scaling to examine the dimensionality of the anomie questions. Bifactor analyses show that there is a latent anomie dimension with some clustering among subsets of questions reflecting themes such as (a) crime and deviance, and (b) loss of personal values. Latent class analyses also reveal a similar clustering along similar themes, and Mokken scaling reveals that all eighteen items do form a single unidimensional scale.

More specifically, the bifactor analysis shows that there is a single underlying factor where four questions (less interest in religion, more interest in social success, more leisure time, and people being less similar to each) form the weakest part of the latent anomie dimension. Construction of unidimensional scales using the Mokken scaling H-statistic, Cronbach's alpha, and the KR-20 statistics all reveal that reliable scales can be constructed from all eighteen items. Therefore, it seems reasonable to construct a simple summated rating scale of forecasting anomie using all eighteen questions in order to capture as many of the characteristics of anomie as possible. This anomie scale has a normal (Gaussian) distribution and lends itself to being modelled using Ordinary Least Squares (OLS) regression modelling.

### *12.2.2 Skill at forecasting anomie*

The skills associated with being a good forecaster of big social trends, such as anomie, are considered in this chapter to be similar to those linked with predicting scientific advances three decades into the future. For this reason, the Motivation-Ability-Opportunity (MAO) explanatory framework will be used to guide the modelling work presented in the next section. However, there are good reasons to think that the factors explaining ability to predict scientific and social trends will be different. The expectation is that those with higher levels of objective (factual) political knowledge would have been better forecasters in 1970 of scientific advances and social developments by the year 2000. This is the primary relationship examined in this chapter. As noted above, it makes sense to consider that style of thinking might influence forecasting ability where

individuals, who are dogmatic or closed-minded, will be less good at predicting the future.

### 12.3 Models of Predictive Ability

In this chapter, the relationship between level of political knowledge and ability to predict (a) scientific advances and (b) the nature of society in the year 2000 will be examined using a series of Ordinary Least Squares (OLS) regression models. In addition to having level of objective political knowledge as an explanatory variable, use will also be made of the insights from the Motivation-Ability-Opportunity (MAO) model presented in earlier chapters. The MAO model facilitates seeing what factors, other than level of political knowledge, help explain predictive ability. Here level of education, being open-minded, and being critical are especially important, as research published by Philip E. Tetlock highlights (Tetlock 2015; Tetlock and Gardner 2015). The generic model examined may be summarised as follows.

Predictive ability = Intercept + Motivation + Ability + Opportunity + Knowledge + individual-level error

In this model it is assumed that differences in predictive abilities reflect variations in objective, or factual, political knowledge and also individuals' motivation to learn more about the world, their ability to make use of information, and their opportunity to become exposed to new information. In addition, the country a person lives in also plays a role in explaining differences in predictive ability, and variation in national context is dealt with by allowing each country to have a different mean level of predictive ability when all the explanatory variables are set to their country means.

The relationship between level of political knowledge and predictive ability will be examined for eight national samples. Britain has been excluded from the analyses because there is no level of education indicator. This is because it is important to have education as an explanatory variable in order to minimise omitted variable bias, and hence biased and inconsistent OLS model parameter estimates. As the survey data used in this chapter contain many countries, it makes sense to consider a multi-level modelling strategy that takes account of cross-national differences.

#### *12.3.1 Use of multilevel modelling with eight countries*

The use of multilevel models for comparative surveys has been the subject of debate. This is particularly the case with regard to the minimum number of level-2 units, such as countries required for having unbiased estimates (Bell, Ferron and Kromrey 2008). In general, there are three perspectives. First, to estimate country effects reliably requires at least

thirty countries and perhaps fifty or more (Fairbrother 2014; Stegmüller 2013; Maas and Hox 2005). Second, multilevel models may be estimated with as few as fifteen countries. Third, if the data has a hierarchical structure then multilevel models should be used regardless of the number of level-2 (e.g. country) units (Gelman 2006: 524–525).

With the Images of the World in the Year 2000 survey data there are eight national samples available for exploring forecasting ability. With respect to the first two positions mentioned above, there are two reasons why multilevel modelling should not be used with these survey data. First, the number of countries modelled is too small. Second, the country effects estimated with a small number of cases are likely to be incorrect. Specifically, the between-country parameters will be ‘estimated imprecisely and this will not be adequately reflected in in test statistics reported [...] Country random variances will be biased downwards and CIs [Confidence Intervals] that are too narrow’ (Bryan and Jenkins 2015: 20). In contrast, with respect to the third position the between-country differences in the Images of the World in the Year 2000 data, with its important division across the Cold War divide, should take into account important differences between countries such as having a communist regime.

The first two perspectives above suggest that with eight countries only single-country analyses should be undertaken. In contrast, the third approach advises doing multilevel modelling regardless of the number of cases if the data structure is hierarchical in nature. There is the option to follow a ‘middle path’, where use can be made of the two-step hierarchical regression modelling approach (see Achen 2005b; Gelman 2006). The first stage consists of estimating eight models, one for each country that only includes individual-level explanatory variables, i.e. the generic model noted above. The results of this OLS modelling exercise are presented later in Tables 12.3 and 12.4. In the second stage the mean country scores for both predictive success and the political knowledge coefficients are plotted together in a scatterplot. Here it is possible to examine the relationship at the country level between forecasting ability and level of objective political knowledge.

An examination of mean scores for correctly predicting scientific advances and anomie in the year 2000 (the two dependent variables) in terms of level of objective or factual political knowledge parameters (the key explanatory variable) reveals a negative knowledge and forecasting ability is negative for the eight countries examined. This is surprising. Further work reveals that this negative association is strongly influenced by the mean knowledge coefficients from Slovenia and Spain.

When these two countries are excluded from the analyses the relationship between level of objective political knowledge and mean forecasting scores is positive. Why are the knowledge parameter estimates for Slovenia and Spain so different from the other countries? The answer is that in both of these countries there was a high level of non-response

**Table 12.3: A Comparative analysis of the determinants of predictive ability for advances in science by the year 2000**

	<i>CZ</i>	<i>SK</i>	<i>FRG</i>	<i>SPA</i>	<i>NOR</i>	<i>NET</i>	<i>FIN</i>	<i>SLO</i>
<i>Motivation</i>								
Interest in politics	.03	-.03	<.01	<b>.04</b>	.07	.05	-.02	<b>-.07</b>
Policy dissatisfaction	.05	.05	<.01	<b>.10</b>	.02	.04	-.02	.03
Dogmatism	<b>-.10</b>	-.04	<b>-.09</b>	<b>-.11</b>	<b>-.17</b>	-.03	<b>-.20</b>	-.04
Interpersonal trust	.01	-.01	.03	.01	<.01	-.01	.01	<.01
Trust in country leaders	-.01	<b>-.19</b>	.02	<b>.04</b>	<.01	<b>-.11</b>	<b>-.13</b>	.01
<i>Ability</i>								
Education	-.02	.06	.03	.03	-.02	<.01	-.01	<b>.06</b>
<i>Opportunity</i>								
Worker	.01	<.01	<.01	-.01	<.01	-.02	<.01	.01
Member political group	-.02	-.01	-.01	.03	.03	-.03	<.01	.01
<i>Knowledge</i>								
Political knowledge	.05	.06	.02	.03	-.03	-.04	.02	.02
Intercept	.24	.23	.33	.21	.36	.37	.32	.25
N	854	324	2052	1836	539	666	490	600
Log-likelihood	356	145	561	849	135	252	124	203
BIC	5675	1807	15504	13680	3308	4247	2956	3756

Source: Images of the World in the Year 2000 survey, 1967–1970

Note country acronyms are CZ: Czechs, SK: Slovaks, FRG: West Germany, SPA: Spain, NOR: Norway, NET: Netherlands, FIN: Finland, and SLO: Slovenes. Estimates in bold are statistically significant ( $p \leq .05$ ). Models estimated using maximum likelihood estimation using an identity link function where the error is assumed to have a Gaussian distribution and hence yields results similar to OLS. The Bayesian information criterion (BIC) statistic allows comparison of fit across models.

to the battery of political knowledge questions. Consequently, a relatively high proportion of Slovene (21%) and Spanish (64%) respondents had zero knowledge scores because of their refusal to answer the knowledge quiz items in the Images of the World in the Year 2000 survey. A key implication here is that the number of countries available for any kind of multilevel analyses is reduced further to just six countries.

### *12.3.2 The dependent variables: scientific and social trends predictions*

Some explanation is required about how the science and social anomie forecasting scores are modelled in this chapter. It is important to note

**Table 12.4: A comparative analysis of the determinants of being able to predict increased anomie in 2000**

	<i>CZ</i>	<i>SK</i>	<i>FRG</i>	<i>SPA</i>	<i>NOR</i>	<i>NET</i>	<i>FIN</i>	<i>SLO</i>
<i>Motivation</i>								
Interest in politics	.03	-.01	<b>.06</b>	<b>.03</b>	-.02	.05	<b>-.15</b>	.04
Policy dissatisfaction	.06	-.04	.02	<b>.13</b>	<.01	.05	.06	<b>.08</b>
Dogmatism	.02	<b>.11</b>	<b>-.05</b>	.01	-.01	<b>.09</b>	-.03	-.02
Interpersonal trust	<b>.02</b>	.01	<b>.02</b>	-.02	<.01	-.02	<.01	<.01
Trust in country leaders	<b>-.26</b>	<b>-.30</b>	<b>-.05</b>	<b>.05</b>	-.03	<b>-.17</b>	-.08	-.10
<i>Ability</i>								
Education	<.01	.14	<.01	<b>.10</b>	.01	-.03	.03	<b>.09</b>
<i>Opportunity</i>								
Worker	<.01	-.01	<.01	-.02	<.01	.01	.01	.02
Member political group	-.02	-.03	-.04	.01	<b>.07</b>	-.03	-.07	.01
<i>Knowledge</i>								
Political knowledge	<b>.21</b>	.08	<b>.10</b>	.02	-.05	-.05	.03	.01
Intercept	.41	.453	.37	.41	.55	.59	.50	.52
N	854	324	2052	1836	539	666	490	600
Log-likelihood	280	115	520	572	151	168	138	193
BIC	5671	1806	15501	13665	3309	4241	2956	3759

Source: Images of the World in the Year 2000 survey, 1967–1970  
 For table notes see beneath Table 12.3.

that these two forecasting scores do not have normal (Gaussian) distributions. The science forecasting score is (positively) skewed to the left because few respondents correctly predicted scientific advances by the millennium due to the ‘optimism in science’ effects noted above. In contrast, the social anomie forecasting score profile reveals a reluctance to make pessimistic, but correct, predictions of increasing social isolation by the year 2000. Here there is an important large zero count score, where about one in seven respondents (14%) failed to select any increase in anomie by 2000 from the eighteen questions asked.

The science forecasting scale is modelled in this chapter using a General Linear Model (GLM) where the dependent variable (number of cor-

rect future predictions) is assumed to be measured at the interval level. The fact that the science forecasting scale has a range of eight points (0–7) is also of concern, as it is on the edge of being suitable for using an OLS estimator, which is known to be robust to deviations from normality, etc., when used with ‘short’ scales. Here the key considerations are the assumptions of normality and homoscedasticity in model residuals. Preliminary analyses revealed few problems in this respect. Additional analyses using other model estimators such as quantile regression generated parameters that are similar to those generated by GLM. In order to keep the modelling as simple as possible only the GLM model estimates are reported later in Tables 12.3 and 12.4.

An examination of the mean forecasting success in scientific advances and anomie reveals that the Czech, Spanish and Slovak respondents had the lowest mean number of correct predictions about what would be scientifically possible in the year 2000. Respondents living in some countries, such as the Netherlands, Finland, Norway, and West Germany (FRG), tended to be better at predicting future scientific advances than all others. West Germans, Czechs, Spanish and Slovaks had lower mean scores in forecasting anomie in the year 2000 when compared to the Dutch, Norwegians, Slovenes, and Finns.

Although it is possible to rank order countries on the basis of median prediction scores, it is more realistic (from an examination of interquartile ranges) to conclude that there are not strong country differences. Substantively, this is an important result because it implies that institutional differences across the Cold War divide did not play a key role in determining individuals’ ability to predict the future. Specifically, there is little evidence of a simple division between citizens living in communist and capitalist states, or the other national-level characteristics outlined in Chapter 4 with regard to the text discussing Figure 4.2.

### *12.3.3 MAO model of forecasting scientific advances*

The main result visible from Table 12.3 is the powerful and consistent association between being open-minded (i.e. the opposite of dogmatism) in helping explain higher predictive ability for scientific advances. The only other factor to show a similar consistent effect is distrust in national leaders. Contrary to expectations, cognitive ability (i.e. level of education) and political knowledge were not strong predictors of science forecasting ability. Overall, individuals’ ability to correctly forecast scientific advances three decades ahead at the millennium was most strongly associated with two motivational aspects: being open-minded and critical. Informal comparison of the country model parameters reveals that forecasting ability was not strongly determined by national context. For example, there are no systematic communist (East) vs capitalist (West) differences. Some care is required here because there are important differences in the sizes of the national samples, which range from 324 in

Slovakia to 2,052 in West Germany, and this may have some impact on the parameter estimates and confidence intervals.

#### *12.3.4 MAO model of forecasting social trends in 2000*

Young citizens' (aged 15 to 40 years) predictions in the late 1960s about what their society would be like in the year 2000, when they would be aged between 48 and 73 years old, suggests a dark vision. A more detailed analysis of anomic predictions across all eighteen questions and eight countries (not presented) reveals that a majority of Czechs felt that their society in 2000 would be more individualistic and materialistic. A majority of Czechs also forecast that by the millennium most people would focus on having more material and social success and would be less likely to have religious beliefs or seek some inner meaning to life. Instead there would be greater hedonism with more leisure time, greater sexual freedom, and drug use. The losers in this competitive individualistic Czech society in the year 2000 would suffer more mental problems.

The models in Table 12.4 reveal that differences in ability to correctly forecast greater anomie in the year 2000 reflected variations in motivational factors such as interest in politics, dogmatism, and distrust of national leaders. The modelling results show that level of objective political knowledge was an important predictor ( $p \leq .05$ ) among Czechs and West Germans. Elsewhere, the factual knowledge effect was weaker. This result is interesting because in most countries examined level of objective politics knowledge did not have a strong association with the ability to forecast that European societies would become more anomic between 1970 and 2000.

To summarise, an individual's ability to correctly forecast anomie was linked with motivation (interest in politics, a critical orientation toward public policy, and distrust of national leaders), ability (greater schooling), and having factual political knowledge. Being open-minded, indicated by low scores on the dogmatism scale, had no consistent cross-country impact on social anomie prediction. This contrasts with the strong and consistent effects observed for forecasting of scientific advances.

#### *12.3.5 Comparison of explanations of predictive abilities*

The modelling results presented in Tables 12.3 and 12.4 reveal that greater forecasting ability for scientific advances was linked at the individual level with being open-minded and critical or dissatisfied with national policy. However, having higher levels of political knowledge had little effect on predictive ability. This indicates that style of thinking was important in having a realistic sense of what would be scientifically possible in the year 2000. With social predictions of anomie having a critical mindset (indicated by policy dissatisfaction, distrust of the country's leaders, and

not being a member of any political organisation) was very important. In addition, cognitive components, such as interest in politics, higher levels of education and having a good knowledge of politics, were also essential in forecasting greater anomie three decades into the future.

Modelling scientific and social forecasting ability also reveals that the MAO explanatory factors had contrasting effects at the individual and country levels. In Tables 12.3 and 12.4 most often factors such as interest in politics have a positive association with predictive ability at the individual level, but have a negative effect at the country level. In other words, the assumption that individual- and country-level effects are the same can be incorrect. Sometimes it makes substantive sense that there should be contrasting individual- and country-level relationships. Model parameter coefficients for 'standard' fixed or random effects models combine both individual- and country-level effects into a single set of parameters. This results in a loss of information, where contrasting relationships at the individual and country levels reveal that specific explanatory factors work differently for citizens and countries, as is the case in the models reported in Tables 12.3 and 12.4.

## Conclusion

The assumption that people with higher levels of (political) knowledge, or experts, are better at predicting the future than all others is not always true. Philip E. Tetlock's long-term research on prediction shows that non-experts who are given a little training can do better than experts. This research highlights two key factors characterising super forecasters: (1) being open-minded and (2) having a university level of education (Tetlock and Gardner 2015). Tetlock's use of ordinary people to successfully forecast future events has, to date, been limited to specific topics such as political events within the next year. In this chapter, we have seen that asking non-experts to predict scientific advances three decades into the future may not be a sensible thing to do.

Citizens' beliefs can be important in evaluating science. In the late 1960s, an optimistic belief that scientists will find answers to all questions was widespread across both sides of the Cold War divide. In the twenty-first century things are likely to be different. Today the public (and some experts) tend to be more pessimistic about scientific advances over the next thirty years, i.e. by 2050. Here there are dystopian visions of sophisticated computer systems beginning to control humans, or genetic engineering facilitating things that many people today would consider immoral such as allowing 'designer babies'.

One of the main lessons to be taken from this chapter is that it may make more sense to ask members of the general public to forecast the political and social world of which they have daily experience. This may be more meaningful. However, Tetlock and Gardner (2015) have found that non-expert super forecasters are the most successful when the time

horizon of predictions is less than a year. It seems that being knowledgeable about politics and other things only helps with specific questions whose answer will be known within a few months. Here the impact of political knowledge on prediction works for short-term horizons.

The evidence presented in this chapter reveals that individuals' level of political knowledge does help in making correct forecasts of long-term social trends that may be considered part of a general process such as anomie. Here objective (or factual) political knowledge, plus all of the factors (i.e. the MAO explanatory framework) that help to explain differences in objective political knowledge among citizens, does help to identify which citizens are better at forecasting long-term social trends.

Overall, the social forecasts made by non-experts in 1967 about Czech society in 2000 were accurate. Czech society by the millennium had become more individualistic and materialistic in nature. Of course, some account has to be taken of the fall of communism in late 1989 and the transformation that came with the adoption of a free market economy and a multiparty political system in the 1990s. Nobody in 1967 could have predicted the end of communism in 1989 and the resulting transition process of the 1990s. What this means is that the social trends predicted in the late 1960s by young Czechs, Dutch, West Germans, Spanish and Finns, etc., were global in scale and were not dependent on the fall of communism. This is because the big social forces shaping Europe operated across all types of societies.

This chapter also has a general message which echoes Tetlock's (2005: 88) point that 'Acknowledging the tentativeness of our knowledge will protect us from disappointment when, looking forward in time, we discover how frequently extrapolations of past regularities into the future are upended.' Here Tetlock highlighted six characteristics of individuals who were more likely to be good forecasters: (1) they are sceptical of general explanations, (2) they seek out disconfirming evidence and avoid simple analogies, (3) they avoid being fooled by their own rhetoric, (4) they understand that decisions or predictions made in the past were not necessarily stupid if the context is taken into account, (5) they have a detached, ironic view of life, and (6) they try to integrate conflicting information and ideas together.

The theme of experts being different from citizens is explored in greater detail in the next chapter, where the focus shifts away from prediction and toward consensus in informed opinions on the basis of knowledge. It will be argued that if factual knowledge is important in decision-making then those with higher (expert) knowledge should see the world in more similar ways than the general public. Use will be made of expert surveys of philosophers, economists, and political scientists to discover if knowledge leads to consensus.

# Chapter 13: Expert Knowledge and Differences of Opinion

Our work suggests that the seemingly straightforward task of judging one's knowledge may not be so simple, particularly for individuals who believe they have a relatively high level of knowledge to begin with.

Stav Atir, David Dunning and Emily Rosenzweig (2015: 1301)

In science, we often take the prevalence of scientific views among experts as strong evidence about which views are correct: consider questions about evolution or climate change, for example.

David Bourget and David J. Chalmers (2014: 466)

## Introduction

A key feature of objective or factual knowledge is the idea of difference: some citizens know more information than others. The baseline comparisons for such judgements are experts, who are by definition expected to have high levels of knowledge. If experts have differences in professional opinion about key technical issues, this implies that the criteria for evaluating citizens' level of factual knowledge are undermined. This is because the focus on a definitive (or factual) version of knowledge and truth is not always evident among experts, and consequently should not be expected among citizens. If experts cannot agree on what is 'true' then citizens can hardly be expected to have high knowledge if the basic facts are contested.

This chapter will show that the implicit assumption evident in much research on objective political knowledge that the ability of citizens to recall political facts is based on a conception of political knowledge that is not adhered to by experts. The influential view that 'declarative knowledge' is the most important form of political knowledge does not match with how experts view their own fields. Disagreement rather than agreement is the prevailing pattern in many areas of expert knowledge. Consequently, the skill of being able to find out about politics, or 'procedural knowledge', may be a more valid and reliable way to view political expertise than thinking experts are 'walking encyclopedias'.

Many disciplines in the social sciences are not characterised by high levels of definitive knowledge, as much of what is known is tentative and contested in nature. Research by Philip E. Tetlock (2005) on expert political judgement and the ability of experts to correctly predict the future is so limited that a simple statistical rule performs better than all of the experts tested. A similar finding was reported by Paul E. Meehl (1954) in a classic study of the accuracy of clinical diagnoses: experts are often not as good as they think they are. There are two central points here.

First, knowledge is practically useful because it helps in making accurate predictions. A recent large study of 'super forecasters' of economic

and political events a few months in advance are often not social scientists, but people with higher levels of education who are open-minded and sensitive to the limits of their knowledge (Tetlock and Gardner 2015). Second, knowledge may be contested and this is especially prevalent where there is not a clear link between expert forecasts and real-world outcomes because no process of learning occurs.

The main message from these two points is that expert knowledge may not be a gold standard by which to evaluate all citizens. Experts are subject to the same psychological biases as their less informed fellow citizens, and expert knowledge itself, especially in the social sciences, is not characterised by consensus.

Well-known psychological biases such as ‘overconfidence’ and ‘overclaiming’ reveal that individuals who think they know a lot about a topic may be mistaken. The first epigraph above highlights that this ‘illusion of knowledge’ has its origins in the false belief that one is an expert: something that is easy to do when one has a high level of education and a professional occupation. One important consequence of the tendency to overclaim among self-perceived experts is an unwillingness to learn more about the world they already think they understand quite well. This may be the origin of hubris.

Failure to recognise, or admit, a lack of specific knowledge in the realm of economics or politics could easily lead to overly confident decisions and forecasts, with negative consequences for all those who accept the expert advice. This chapter will explore knowledge among experts, i.e. philosophers, economists, and political scientists. Use will be made of a series of expert surveys, where the respondents had, by definition, high levels of knowledge in their own particular field because of their education level, i.e. doctoral degrees.

The first section will examine an international expert survey of philosophers fielded in late 2009. This survey explores academic philosophers’ views about knowledge and truth that relate directly to the themes explored in Chapter 1. Section 2 presents the results of an expert survey of Czech economists also conducted in late 2009 that examined their public policy preferences. The penultimate section outlines the results of an expert survey of Czech political scientists conducted immediately after the Czech Lower Chamber Elections of 2013, which focussed on mapping out the policy positions of parties. In the final section, there are some concluding remarks about (a) the evidence that expert knowledge does not always lead to consensus, and (b) what this means for evaluating citizen competence.

### **13.1 Philosophers’ Conceptions of Knowledge and Truth**

Chapter 1 presented the idea that political knowledge may be examined in terms of three philosophical theories of truth. It was argued that contrasting approaches to the study of political knowledge were based

on these three theories. The main source for theories of knowledge in political science is philosophy, and the assumption here is that academic philosophers are the best people to ask about current expert views about knowledge and truth.<sup>46</sup>

One way of finding out what philosophers today think about knowledge and truth is to examine the results of an international survey of philosophers conducted in late 2009 by David Bourget and David J. Chalmers. This unique expert survey, entitled ‘The PhilPapers Survey’, was fielded between November 8 and December 1 2009. This expert survey examined thirty questions which represent some of the main themes in contemporary philosophy. For more details see the following website <http://philpapers.org/surveys/index.html>.

More than three thousand (n=3,226) professional philosophers completed the online survey, which also included information about the respondent’s age, sex, nationality, and area of expertise. The respondents to this survey came primarily from university departments in the Anglophone world. There was a single Slovak (but no Czech) respondent, i.e. Michaela Fišerová (Charles University, Prague). The response rate for the survey was 47%, with 931 out of 1,974 philosophers from target sample of 99 leading academic departments completing the survey. The remaining respondents consisted of 872 other philosophy faculty and/or PhDs, 829 graduate students in philosophy, 217 undergraduates in philosophy, and 377 with no listed affiliation.

There was also a follow-up study called ‘The PhilPapers Metasurvey’, which was fielded between December 2 and December 8, 2009. This metasurvey examined philosophers’ own expectations as to the results of The PhilPapers Survey and the goal was to (1) measure the accuracy of philosophers’ knowledge of the beliefs in their own expert community, and (2) determine if there is consensus about knowledge among philosophers. The PhilPapers Metasurvey had a lower response rate of 727 respondents, which included 216 from the target group, 221 other philosophy faculty or PhDs, and 210 philosophy graduate students. About one in four (23%) of the respondents in The PhilPapers Survey completed the follow-up metasurvey. The lower response rate may have been due to greater difficulty in answering questions about what other philosophical experts believed across thirty questions.

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46 Bryan Caplan an economist (of whom more will be said in the next section) once asked philosophers at a conference ‘what are philosophers expert at?’ Caplan summarised their answers in two points. First, philosophers are experts at describing the views of other philosophers both living and dead. Second, philosophers are experts at ‘checking arguments for logical validity/internal consistency’. In general, it seems that contemporary philosophers do not claim to have definitive answers to questions such as ‘what is knowledge or truth?’ Philosophers believe that their area of expertise has answers to little ‘more than a handful of questions’ (Caplan 2007b)

### 13.1.1 Results of the PhilPapers Survey 2009

An overview of the The PhilPapers Survey results, as they relate to the theme of knowledge, is presented in Table 13.1. This table is based on the answers of 931 expert respondents. These data are important in determining if there is a consensus among philosophers about (a) the nature of knowledge and (b) the theories of truth that underpin survey-based operationalisations of political knowledge discussed in Chapter 1.

#### *Can there be knowledge prior to experience?*

One of the oldest questions in philosophy is if a priori knowledge is possible? This question asks if it is possible to have knowledge based on reason alone (a priori) rather than having knowledge coming from experience (a posteriori). This question is important because survey-based measures of political knowledge are a posteriori in being based on exposure to facts that are most often presented in media news reports. There are rarely direct tests of citizens' ability to use 'political logic' to decide how to vote in the absence of facts. For example, the Responsible Party Model (discussed in the Introduction and also Chapter 2) and the spatial model of voting (referred to in Chapter 11 with regard to issue voting) assumes that voters have a priori knowledge that voting for the party closest to them is the best choice. The top part of Table 13.1 shows that a majority of seven in ten philosophers interviewed agreed that a priori knowledge is possible, while about one in five thought that a posteriori knowledge was only possible. One in ten believed in something else, and one in twenty declined to answer the question. The main lesson here is that a priori knowledge of the logic of party competition, conceptualised, for example, in terms of left-right or liberal-conservative ideologies, is an important source of knowledge according to philosophers.

#### *What is knowledge?*

A second central question in philosophy involves 'knowledge claims', where what a person knows depends on the context in which they live (contextualism). This contrasts with the view that knowledge is universal and 'invariant'. Another conception of knowledge holds that it depends critically on an individual's point of view (relativism). Within political science one of the most important advocates of relativism was Bernard Crick (1962), who in his book *In Defence of Politics*, contended that many moral political questions were characterised by relativism and politics was the realm in which these questions would be resolved through debate. The survey results in Table 13.1 reveal that a plurality of two in five philosophers view knowledge as being contextual, while three in ten think that knowledge is invariant, and only a small minority of one in thirty-three philosophers adhere to a relativist perspective on knowledge. One-quarter of those interviewed thought that knowledge is something else. The central message here is that among philosophy experts the nature of political knowledge is contested. Politics may be considered either context-dependent (e.g. each national political system

**Table 13.1: Consensus among philosophers on the nature of knowledge and truth**

<i>Questions</i>	<i>Response options</i>	<i>%</i>	<i>Sum (%)</i>
A priori knowledge: yes or no?	(1) Accept: yes	51	
	(2) Lean toward: yes	20	71
	(3) Lean toward: no	12	
	(4) Accept: no	6	18
	(5) Other answer		11
	<i>Total</i>		
Knowledge claims: contextualism, relativism, or invariantism?	(1) Accept: contextualism	12	
	(2) Lean toward: contextualism	28	40
	(3) Lean toward: invariantism	20	
	(4) Accept: invariantism	12	32
	(5) Lean toward: relativism	2	
	(6) Accept: relativism	1	3
	(7) Other answer		26
<i>Total</i>			<i>101</i>
Knowledge: empiricism or rationalism?	(1) Accept: empiricism	14	
	(2) Lean toward: empiricism	21	35
	(3) Accept an intermediate view	11	
	(4) Lean toward: rationalism	17	
	(5) Accept: rationalism	11	28
	(6) Other answer		37
<i>Total</i>			<i>100</i>
Truth: correspondence, deflationary, or epistemic?	(1) Accept: correspondence	26	
	(2) Lean toward: correspondence	25	51
	(3) Lean toward: deflationary	16	
	(4) Accept: deflationary	9	25
	(5) Lean toward: epistemic	5	
	(6) Accept: epistemic	2	7
	(7) Other answer		18
<i>Total</i>			<i>101</i>

Source: PhilPapers Survey (2009) and PhilPapers Metasurvey (2009)  
 Questionnaire and data available at <http://philpapers.org/surveys/metaresults.pl>  
 Note the column data sum to 100% subject to rounding error.

is unique and invoked with terms such as ‘American exceptionalism’) or universal, where politics follows a similar logic everywhere – a view similar to the rational choice approach in political science.

### *Sources of knowledge?*

A third core question in philosophy relates to the origins of knowledge. Within philosophy there are two main rival views of the sources of knowledge: empiricism and rationalism. On the one hand, empiricism argues that all knowledge is based on experience. This perspective fits well with a scientific (positivist) view of the world which emphasises the importance of observation and experimental evidence. Knowledge based on mathematical reasoning or ethics falls beyond the empiricist view of knowledge. On the other hand, rationalists assert that some knowledge is grounded on reason and abstract thinking. Reason is seen to play an important part in observation because it sets the priorities on what is worth observing. With regard to the sources of knowledge, Table 13.1 shows that there is close to an even split between empiricists (35%), rationalists (28%), and other theories (37%). This division among philosophers highlights that measuring political knowledge purely in terms of empirical facts, as is typically done in mass surveys, is only one perspective. A majority of philosophers believe in other sources of knowledge.

### *Theories of truth*

There are many theories of truth in philosophy, but three have been especially influential. Some of these theories match the theories presented in Chapter 1. For example, the correspondence theory contends that truth is what can be observed in the world. This is an old perspective that can be traced back to the ideas of Socrates, Plato, and Aristotle. Here it is assumed that the external world can be known. This is a controversial idea because many facts are not directly experienced; for example, I know that the UN Secretary General is currently (2016) Ban Ki-Moon, although I have never met him.

An alternative ‘deflationary’ view of truth contends that the ‘truth’ of a statement is unnecessary if a statement has meaning; for example, observing that ‘Franta Novak got the most votes in an election under first-past-the-post electoral rules’ contains the same informational content as saying ‘It is true that Franta Novak was elected’. Consequently, saying that something is true may have no informational value.<sup>47</sup> In contrast,

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47 This idea is similar to the influential concept of ‘Shannon entropy’ that is used in many branches of science, engineering, and applied mathematics. Shannon entropy is a measure of the unpredictability of information. It is easier to explain this concept with an example. Consider a pre-election survey where it is uncertain what the level of support is for each party. The key point here is that the survey results are unpredictable and will yield new information. Technically, the entropy of the survey results is great. A subsequent poll would have lower informational value, or entropy. This is because the outcome of the second survey could be predicted from the first and does not contain much new information.

'epistemic' theories of truth contend that truth is knowable in terms of concepts such as knowledge, verification, and perspective. Here truth is not seen to be defined in terms of observable facts about the world (correspondence theory), but is based on some abstract property because no person can be completely certain that their beliefs about the world match what is actually in the world. A person's knowledge of the 'facts' might be a product of their perception, and hence not objectively real.

The results presented in the bottom part of Table 13.1 show that a small majority of philosophers (51%) adhere to the correspondence theory of truth beloved of empirical political scientists. One in four supports a deflationary perspective, while about one in fourteen supports an epistemic perspective. Finally, one in six supports other theories of truth, such as 'coherence' and 'pragmatism', as discussed in Chapter 1. The PhilPapers Survey indicates modest majority support for the fact-based correspondence theory of truth, with an almost equal number of philosophers supporting alternative views of truth based on other criteria, such as doubting the usefulness of saying that something is the truth. In sum, there is small majority support among philosophers for the objective or factual view of knowledge implemented in mass surveys by political scientists.

#### *Philosophers' knowledge of their own knowledge*

The motivation behind The PhilPapers Metasurvey was to see the level of awareness of philosophers of expert opinion within their own academic discipline. Only a minority (216 / 931 or 23%) of the respondents in the main target group, i.e. academics in the top university departments also completed the follow-up metasurvey. As noted earlier, the questions here were more difficult because they involved estimating what other philosophers think across the thirty questions asked in The PhilPapers Survey.

There is also an important methodological issue. The PhilPapers Survey allowed respondents to reply to the multiple-choice questions with an 'other' answer. In the The PhilPapers Metasurvey the 'other' response option was not listed. Consequently, the metasurvey underestimates the level of pluralism in the The PhilPapers Survey. One option to deal with this 'response options effect' is to ignore the 'other' answers in the The PhilPapers Survey. Here both The PhilPapers Survey and The PhilPapers Metasurvey have the same number of response options.

For all of the respondents there was a mean absolute error of 15%, i.e. the mean difference between the mean estimates for the actual and perceived responses. Table 13.2 presents comparisons between the actual views and perceptions of views for the four knowledge and truth questions. Here we see that the actual popularity of a priori knowledge among philosophers was underestimated (-17%), in addition to (a) contextualism as a source of knowledge (-8%), and (b) the correspondence theory of truth (-10%). In contrast, there was an overestimation of the

**Table 13.2: A comparison of actual positions on key questions in philosophy and perceptions of the views of the international philosophy community, 2009**

<i>Questions</i>	<i>Response options</i>	<i>Actual</i>	<i>Perception</i>	<i>Mean error</i>	<i>Mean  error </i>
<i>A priori knowledge: yes or no?</i>	Yes	71%	54%	-17%	21%
	No	18%	33%	14%	17%
	Other	11%	13%	3%	9%
	N	931	204		
	PA	.53			
<i>Knowledge claims: contextualism, relativism, or invariantism?</i>	Invariantism	31%	37%	6%	15%
	Contextualism	40%	33%	-8%	14%
	Relativism	3%	14%	11%	16%
	Other	26%	17%	-9%	11%
	N	931	178		
<i>Knowledge: empiricism or rationalism?</i>	Empiricism	35%	54%	19%	22%
	Rationalism	28%	27%	-1%	11%
	Other	37%	19%	-18%	23%
	N	931	200		
	PA	.09			
<i>Truth: correspondence, deflationary, or epistemic?</i>	Correspondence	51%	41%	-10%	15%
	Deflationary	25%	30%	5%	11%
	Epistemic	7%	16%	9%	10%
	Other	18%	14%	-4%	12%
	N	931	196		
	PA	.27			

Source: PhilPapers Survey (2009) and PhilPapers Metasurvey (2009), <http://philpapers.org/surveys/metaresults.pl>

Note the 'Mean error' is the difference between the arithmetic means of the actual and perception estimates. The 'Mean |error|' or 'Mean absolute error' is the difference between the median estimates for the actual and perception estimates. This statistic has the advantage of being less affected by outliers in the data, and is therefore a more robust measure of difference. Assuming that the answers to the questions have an ordinal scale, use of the Perceptual Agreement (PA) statistic provides a useful insight into the degree to which the distribution of answers is unimodal and thus indicative of consensus among philosophers (note, van der Eijk 2001).

popularity of empirical knowledge (+19%) and relativism as a source of knowledge (+11%).

On the far right of Table 13.2 are the mean absolute error ('Mean |error|') estimates, or the differences between medians rather than means, reveal even greater deviations of perceptions from actual answers. This pattern of mean absolute errors, ranging from 9% to 23%, indicates a considerable gap between what philosophers really think about knowledge and theories of truth. Such gaps between reality and perceptions led the designers of the two surveys, Bourget and Chalmers (2014: 466), to conclude:

The sociological beliefs of individual philosophers are typically quite inaccurate, and the community as a whole substantially overestimates or underestimates the popularity of a number of important philosophical positions.

Here the term 'sociological beliefs' refers to a shared common knowledge of what philosophers as experts believe. One way of examining philosophers' sociological beliefs is to use a Perceptual Agreement (PA) statistic which assumes that the scales examined are ordinal. This statistic was introduced earlier in the first section of Chapter 4. For example, the question about knowledge being based on empiricism or rationalism has an ordered scale that ranges from (1) accept empiricism, (2) lean toward empiricism, (3) accept an intermediate view, (4) lean toward rationalism, to (5) accept rationalism.

Without getting into the details of how the PA is estimated (for details, see Section 4.1.4 of Chapter 4 and van der Eijk 2001), it is sufficient here to know that the PA coefficient is constrained between -1 and +1. The PA statistic has a minimum value of -1 when half the sample chooses one extreme response option and the other half of the sample selects the opposite extreme. This yields a bimodal distribution and indicates maximum disagreement. On the other hand, when all respondents choose the same response option, then the PA statistic has a value of +1, which is interpreted as maximum agreement or perfect unimodality. A uniform distribution yields a Perceptual Agreement (PA) value of zero (0), and this indicates that 20% of the respondents selected each of the five response options used in The PhilPapers Survey.

The PA statistics presented in Table 13.2 show there is only limited consensus among philosophers about (1) what knowledge is and (2) the correct theory of truth. The lack of consensus among philosophers presented in Tables 13.1 and 13.2 is important because it highlights that experts on theories of knowledge and truth are in disagreement. One key implication here is that the empiricist view of knowledge and the correspondence theory of truth that are most influential in the survey-based measurement of objective political knowledge are not the only conceptions of knowledge and truth. This means that assertions that citizens

are incompetent if they have low scores in short quizzes of political facts fielded in a mass survey would not be accepted by many academic philosophers.

### 13.2 Differences in Policy Preferences among Economists

The expert surveys of philosophers, described above, are useful in showing that the theories of knowledge and truth, which are at the heart of empirical political knowledge measurement, are contested. The central message here is that the current view where political knowledge is defined solely in terms of ability to correctly recall facts in a survey interview is a limited one. Other types, or facets, of knowledge are also possible. This suggests that alternative views of what constitutes political knowledge such as those explored in this book, i.e. objective, subjective, implicit, and interpersonal, may be equally valid views of what citizens know.

In the following two sections of this chapter, the focus will switch to the results of expert surveys of two types of social scientists in the Czech Republic: economists and political scientists. Here the goal is to show that even if all citizens lived up to the ‘democratic ideal’ of having the same high levels of knowledge as economists and political scientists, with doctorates, there still would not be consensus on the ‘correct answer’ to (a) many important public policy questions, or (b) what is the relative ideological position of parties who competed in the lower chamber elections of 2013.

Bryan Caplan argued in his influential book *The Myth of the Rational Voter: Why Democracies Choose Bad Policies* (2007a) that most voters have incorrect, and hence biased, views about economic policies because of ‘rational irrationality’. Rational irrationality is defined as acting in a manner that is both instrumentally rational and epistemically irrational. Caplan explains that rationality has two central facets. First, ‘epistemic rationality’ refers to a person holding beliefs that they believe to be true and there is an avoidance of information that would invalidate the true belief. Second, ‘instrumental rationality’ involves selecting the most effective means to attain desired goals given current beliefs. According to Caplan, ‘rational irrationality’ describes a situation where it is instrumentally rational to be epistemically irrational.

#### 13.2.1 Rational irrationality and voting like an economist

Politics is a field of human behaviour where rational irrationality is expected to be common, according to Caplan’s theory. In typical large democracies, each individual voter has a very low probability of influencing (a) the outcome of an election, or (b) determining if a particular policy will be implemented. Thus, the expected cost of supporting an erroneous policy, which can be derived from the product of the cost of

the policy multiplied by the probability that the individual voter will have a decisive role in influencing the policy, is very low. In sum, the perceived psychological benefits of supporting policies that feel good but are collectively harmful may turn out to have high objective costs. Here voters may be rationally irrational because of ‘motivated reasoning’, i.e. the unconscious tendency of individuals to match their thinking to conclusions that fit with a desired goal (note Lodge and Taber 2013).

One idea proposed by some economists, such as Bryan Caplan, is that election outcomes would be better if more people voted like economists. Surveys comparing the policy preferences of economists and citizens consistently show large differences (Blendon et al. 1997; Caplan 2001, 2002; Sapienza and Zingales 2013). The knowledge of professional economists is considered to be a ‘gold standard’ because of their expertise in evaluating the likely consequences of rival public policies proposed by political parties during elections. One important implication of this idea is that economics, as a domain of expert knowledge, is characterised by consensus as to what is sensible. Fortunately, it is possible to explore this assertion because there have been periodic surveys of economists’ policy preferences in the United States and Europe since the mid-1970s.

These expert survey results are important because they facilitate seeing how experts, such as professional economists, agree on what is the ‘correct answer’ to a public policy question. The results of this line of survey research show that economists do share some policy preferences; however, they also differ on many topics (e.g. Alston et al. 1992; Fuchs et al. 1998; Gordon and Dahl 2013). The results of a comparative survey of experts across six social sciences implemented in 2003 revealed that economists were as divided on the basis of left-right ideology as the other disciplines. However, there was a smaller gap between those on the left and the right in economics. Contrary to the perception that all economists believe in the free market, and hence must be predominantly right-wing, it turns out that leftists dominated by three-to-one over rightists in economics in 2003. To put this result in perspective, the dominance of leftists was ten times higher among anthropologists (Klein and Stern 2006).

In this chapter, some of the results of a survey of Czech economists will be presented to answer the question: does having expertise based on a common body of knowledge result in a consensus in policy preferences? This question is important, because if expertise is associated with consensus, then knowledge serves to provide citizens with guidance on the correct answers to public policy questions. Conversely, if the answer to this question is that expertise is not associated with consensus, then this shows that higher levels of political knowledge will not necessarily lead voters to select the ‘correct answer’ because no consensus on truth exists for economic policy or political economy.

**Table 13.3: Profile of policy preferences of Czech economists and level of consensus on desired public policy**

<i>Policy</i>	<i>Mode</i>	<i>Percentages</i>				<i>Test statistics</i>			
		<i>LO</i>	<i>EQ</i>	<i>HI</i>	<i>NA</i>	<i>PA</i>	<i>IM</i>	<i>AM</i>	<i>SD</i>
State budget deficit	Lower	80	13	6	2	.75	1.12	1.25	.56
Student payment of university costs	Lower	77	19	4	0	.73	1.15	1.27	.54
Total tax burden	Lower	74	19	6	1	.68	1.17	1.32	.58
Money supply growth	Unchanged	14	74	9	3	.67	1.97	1.95	.49
Target inflation rate	Unchanged	14	74	10	2	.66	1.97	1.96	.49
Size of government expenses	Lower	69	18	12	2	.58	1.21	1.42	.69
Ease of firing workers	Lower	63	30	6	2	.58	1.29	1.42	.60
Power of trade unions	Lower	62	33	4	1	.58	1.30	1.42	.58
Maximum rent allowed	Lower	62	24	12	2	.51	1.29	1.49	.71
Farm subsidies	Lower	58	29	14	0	.44	1.37	1.56	.72
Income tax rate	Lower	53	34	12	2	.42	1.43	1.58	.69
Trade barriers	Lower	50	37	13	1	.37	1.51	1.63	.70
Minimum wage	Lower	50	35	14	1	.36	1.49	1.64	.72
Investment perks	Lower	50	32	18	1	.33	1.49	1.67	.76
Regulation of trade in human organs	Higher	14	38	46	2	.32	2.41	2.32	.72
Attention to balance of trade deficit	Unchanged	19	48	32	1	.30	2.14	2.13	.70
Regulation of consumer rights	Higher	16	38	45	2	.29	2.38	2.29	.73
Regulation of illegal drugs	Higher	22	29	48	2	.26	2.45	2.26	.80
Powers of anti-trust authority	Unchanged	23	47	29	1	.24	2.06	2.06	.72
Anti-dumping proceedings	Lower	41	32	25	2	.16	1.75	1.84	.81
Environmental regulation	Higher	25	32	40	3	.15	2.22	2.15	.81

Source: Survey of Czech Economists on Economic Policy, December 2008 to January 15 2009, n=182, Štašný (2010) and author's calculations.

Note that the policy preferences are ordered in terms of level of Perceptual Agreement (PA) among the respondents in descending order of consensus.

Legend: Mode – modal (or most popular) policy position of the respondents; LO – lower spending; EQ – unchanged level of spending (status quo); HI – higher spending; AM – Agreement statistic; IM – Interpolated median; AM – Arithmetic mean; SD – Standard deviation.

### *13.2.2 Policy preferences of Czech economists*

A survey of more than 700 members of the Czech Economic Association, fielded in December 2008 and January 2009, resulted in 182 completed online interviews (see Šťastný 2010, 2011). A majority of the respondents were male (76%), aged 26 to 45 years (66%), worked in academia (56%), and a plurality (44%) felt that the economic policies of the right-wing Civic Democrats (ODS) were closest to their own personal preferences. When asked 'Do you think economic policy reflects in a sufficient way the insights of economic theory and the policy recommendations made by economists?', four in five of the Czech economists interviewed replied 'no'. The implication here is that parties successful in all general elections since 1993 (including ODS) did not adopt economic policies when in government that followed a logic endorsed by most economists.

Table 13.3 shows the policy positions of Czech economists across 21 policy areas and reveals that there is consensus (or Perceptual Agreement (PA $\geq$ .50)), in less than half (9/21 or 43%) of all the domains examined. In general, the economists who completed the online interviews adopted a free market view of the economy where government regulation should be less than was the case in early 2009.

If one assumes that most economists have either advanced academic degrees, such as doctorates, and/or experience in large organisations or businesses, then they have high levels of economic knowledge. In this respect, they may be taken to represent what all citizens might be like if they had the same education and experience as professional economists. The assumption here is economists use their knowledge of economic science to (1) express public policy preferences and (2) not vote on the basis of emotional attachment to a specific party, i.e. party identification, for example.

If economists do vote on the basis of their expert knowledge then one would expect a high level of consensus. This is because most economics textbooks promote the advantages of the free market with limited government intervention. Therefore, if the answers to all 21 policy questions shown in Table 13.3 are taken together, it makes sense to see how well economists express a free market consensus position based on their professional economic knowledge learned at university. All 21 questions were coded to indicate a free market preference, and then the answers for each respondent were summed up to yield a total free market scale score. This scale is assumed here to measure the 'correct' free market answers, and a respondent who scored highly is seen to be the most knowledgeable in a free market economics sense.

Simple addition of the answers to all questions assumes (1) that all items in the survey are equally good at discriminating between economists in their free market orientation, and (2) that all the policy questions were equally easy to answer, which is unlikely to be true as some topics reflect conflicting goals. Since these two assumptions are unrealistic, it is better to use an alternative method, such as Item Response

Theory (IRT), to see how the economists answered the twenty-one policy questions.

### *13.2.3 Mokken scaling and IRT models*

The degree to which questions in a battery of survey items form a hierarchy on an underlying scale can be determined using Mokken scaling analysis, which searches multivariate data for unidimensional, ordinal, and hierarchical scales. Mokken scaling is a nonparametric application of Item Response Theory (IRT) that explores the relationship between items and a (hypothesised) latent trait (Watson et al. 2012). Mokken scaling analysis can be applied to examine subscales and item discrimination. Earlier, in Chapters 11 and 12, Mokken scales were used to explore the dimensionality of correct voting and social anomie scales.

The Mokken scale assumes unidimensionality and the questions used to construct the scale can be ordered in a hierarchical manner across the latent dimension. In addition, all of the respondents may be ranked in terms of their ability to answer the questions (Mokken 1971, 1997; see also Molenaar 1997). In this chapter, Mokken scaling facilitates building an explanatory model of who is more 'economically knowledgeable' among Czech economists on the basis of applying a free market economic logic to the 21 public policy topics examined in the expert survey of 2009.

A Mokken scaling analysis of the 21 policy questions reveals 4 scales: 1 main one with 16 items, and some smaller ones with 2 to 4 items each. This exploratory work reveals that the large battery of economic policy questions may be viewed as reflecting a single underlying free market orientation with some specific facets reflecting technical issues, such as (a) appropriate monetary and inflation policy goals for the Czech Republic in late 2008, and (b) morally correct policy measures such as regulating consumer rights, and the sale of human organs, etc. A two-part logistic model item response theory (IRT) model was estimated using all 21 items.<sup>48</sup> These IRT modelling results revealed that some questions were better at discriminating between Czech economists on the free market economics scale, while other questions were more difficult for all respondents to answer.

### *13.2.4 Item discrimination and difficulty*

The items with least discrimination related to technical topics: reductions in inflation targets and money supply. In addition, social questions about increasing the maximum limits on rent and reducing regulation

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<sup>48</sup> This model assumes that there was not a high level of guessing among the expert respondents, which is a reasonable assumption given that similar IRT models of non-expert citizens reported earlier in this book also used a two-part model. This is because the 2PL model had the best fit to the data as indicated by the model fit statistics.

on drugs and trade in human organs also had low discriminatory power. In contrast, the questions with most discrimination power were the following: reducing the legal powers of trade unions, lessening consumer protection regulations, less use of trade tariffs, reducing the importance of balance of trade criteria, and less frequent use of anti-dumping rules against foreign manufacturers (such international legal actions often have a political dimension).

The questions that Czech economists found most difficult referred to technical topics such as inflation targets and money supply. Social and moral issues such as the sale of human organs and illegal drugs also proved difficult to answer using a liberal free market economic logic. In contrast, questions relating to reducing the state budget deficit, making students pay more for their university education, decreasing income tax rates, government expenditure, and maximum rent limits were some of the easiest items to answer from a free market perspective.

In sum, the questions that were most discriminatory and difficult for Czech economists to answer in a free market manner often related to topics with social trade-offs, e.g. reducing the power of trade unions, consumer protection, and having a freer market for the sale of illegal drugs and human organs.

### *13.2.5 Modelling differences in economists' level of knowledge*

We have seen above that Czech economist's answers to policy questions on free market knowledge shows that the items with the highest levels of discrimination and difficulty were topics that reflected on respondents own core beliefs and values. For example, Czech economists found it difficult to apply free market economic logic to the trades in illegal drugs and human organs. Moreover, topics such as the optimal targets for inflation and money supply were technically difficult or the economist chose not to adhere to a pure market economic view on these questions, i.e. other goals and values were important.

It is possible to extend this analysis one step further by examining differences among Czech economists in late 2008 and early 2009 in how they applied free market logic, or knowledge, to answering contemporary public policy questions. Fortunately, in the 'Czech Economists on Economic Policy Survey' (2008–2009) there were a small number of other questions that provide information about each respondent: age, sex, income, type of economist (academic or not), belief that Czech governments do not use economic knowledge in their public policy making, and a feeling of closeness to the economic platform of one of the main Czech political parties (ČSSD vs ODS).

The OLS regression modelling results show that it is possible to explain which Czech economists are more likely to answer policy questions using free market logic. This logic currently constitutes core economic knowledge as reflected in textbooks. Using the same approach adopted

**Table 13.4: Results of a MAO model of the determinants of holding a free market policy orientation among Czech economists, 2009**

<i>Explanatory variables</i>	<i>B</i>	<i>SE</i>	<i>Beta</i>	<i>Sig.</i>
<i>Motivation</i>				
Govt. economic policy does not reflect economists knowledge	.30	.16	.12	.071
Party closest to own economic policy: ČSSD (left-wing)	-.60	.20	-.22	.003
Party closest to own economic policy: ODS (right-wing)	.69	.14	.36	<.001
<i>Ability</i>				
Education (all respondents have a Ph.D.)	–	–	–	–
<i>Opportunity</i>				
Age cohorts (x6)	-.16	.05	-.22	.002
Sex (female)	-.28	.17	-.12	.099
Type of economist: academic	.21	.13	.11	.115
Gross income (in Czech Crowns, CZK):	.17	.07	.19	.011
Intercept	-.28	.39		.477
Adjusted R <sup>2</sup>	.39			
Standard error of estimate	.75			

Source: Survey of Czech Economists on Economic Policy, December 2008 to January 15, 2009, n=182, Štastný (2010) and author's calculations.

Note the dependent variable is the 2PL IRT model estimates of the 21 policy questions that have been coded to reflect 'free market' knowledge of what constituted the best policy making choices by the Czech government in 2009. See the text and appendix to chapter for details. ČSSD refers to the Czech Social Democratic Party, which has a centre-left wing orientation in contrast to the centre-right Civic Democrats (ODS) party. Level of education is constant for all respondents who mainly have doctorates. Age cohorts refer to ≤25 years, 26–35 years, 36–45 years, 46–55 years, 56–65 years, and 66 years or more.

in earlier chapters of this book, knowledge differences among economists are examined using the Motivation-Ability-Opportunity (MAO) model. To briefly recap, motivation refers primarily to attitudes that lead a person to become more informed, ability indicates the skills of finding information and using it effectively to make correct choices and is often equated with level of education, and opportunity highlights the importance of having the resources, such as time and money, to have access to information and news.

As the focus here is on experts, there is no difference among the respondents in terms of ability or education, so the model results presented in Table 13.4 include indicators of motivation and opportunity. The parameters presented in this table show that there are important motivation and opportunity effects. To summarise, higher levels of free market knowledge, operationalised using an IRT generated dependent variable described earlier, is exhibited by (1) motivation – thinking the Czech government does not use economic knowledge enough and feeling closer to the right-wing Civic Democrat (ODS) economic platform, and (2) opportunity – represented by younger males with higher incomes who work as academics.

This admittedly simple explanatory model explains about 40% of the total variation in free market knowledge as expressed in answers to policy questions. These results suggest that equating higher levels of objective knowledge, courtesy of having a doctorate in economics, does not necessarily mean that political choices will be better. This is because expert knowledge is not used in a consistent way by (Czech) economists to answer public policy questions. Consequently, there is no reason to believe if all citizens were economists this pattern would be different.

In the next section, our attention will shift to exploring the degree to which there is consensus among Czech political scientists about the relative placement of parties on a left-right scale after the Lower Chamber Elections of 2013. Fortunately, it is possible to compare these expert survey results with (1) interested citizens who also voluntarily completed the expert survey and (2) voters who exhibited low and high levels of factual knowledge when interviewed in a post-election survey. Here the goal is to see if expert opinions, by definition based on high levels of factual knowledge, exhibit higher levels of consensus about parties' policy positions than all others. If political scientists do not have higher consensus on this task than all others, this implies that a greater level of political knowledge among voters will not lead to more 'correct voting' – a topic explored earlier in Chapter 11, where it was found that level of objective knowledge had a greater impact on turnout than party choice.

### **13.3 A Comparison of the Knowledge and Perceptions of Political Experts and Citizens**

Within political science there is the assumption that voting on the basis of issues is the most sensible way of choosing among parties in an election. Issue voting is most often represented in terms of relative position (close versus distant) in an ideological space (often 'left' versus 'right' or 'liberal' versus 'conservative'). Here the 'spatial logic' is that voters and parties have preferred policy positions and the citizen chooses correctly by selecting the party that is, in ideological terms, closest to them. This perspective assumes that voters have sufficient knowledge to know

both their own policy positions and those of all major parties seeking election.<sup>49</sup>

Within political science the policy positions of parties is important in explanations of voting and coalition government formation (note Adams et al. 2005). For this reason, expert surveys are one of the methods used to generate policy positions. Here political scientists are asked to place parties on ordinal scales referring to important policies (note Lyons 2012: 222–237 for an overview of Czech expert survey data). The assumption behind expert surveys is that the respondents are both highly knowledgeable and objective, and hence systematically different from the general electorate. One implication from this perspective is that if all citizens had the same high knowledge of politics they would vote ‘correctly’ – a topic examined in greater detail in Chapter 11.

In this section, the main task is to examine the level of consensus among Czech political experts on parties’ left-right positions in the Lower Chamber Elections of 2013. The thinking here is that high levels of expert political knowledge should yield a higher level of consensus than that evident among the general public. Here we will test this assumption. The Czech Expert Survey on Party Policy Positions was fielded between November 11, 2013 and January 31, 2014. This survey was implemented using the LimeSurvey v.2.0 online (open-source) surveying software platform with a sample of 209 ‘experts’. This expert sampling frame was defined as all academics involved in teaching politics or undertaking research on parties and elections in the Czech Republic.

There was a 30% response rate yielding 63 completed online survey interviews with varying levels of item non-response. In addition, a further 94 ‘non-experts’ completed the same questionnaire having been recruited using Facebook. Here the goal was to see if interested members of the general public would answer the expert survey in a similar manner to political scientists. This comparison between ‘experts’ and ‘non-experts’ facilitates exploring the question: do experts answer the party policy position questions with higher levels of consensus than all others?

The Czech Expert Survey on Party Policy Positions (2013) followed the same procedure and questions as outlined in Laver and Benoit (2006) who have explored party policy positions cross-nationally for a prolonged period. All respondents in the survey were given the following instructions (in the Czech language).

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49 There is also the question of how to measure (a) distance, e.g. a straight line using a Euclidean metric, and (b) closeness. Closeness or ‘proximity’ to a party’s policy position may be measured in absolute terms, or alternatively as a ‘direction’, which refers to being in a particular part of the policy space such as the ‘left’ or ‘right’ (note Merrill III and Grofman 1999). Here these details will be set to one side to keep the analyses presented here within reasonable limits.

For the issue position scales please locate each party on the scale from 1 to 20. For the issue importance dimensions, also measured with 1 to 20 point scales, please indicate how important you think each issue is for all of the parties examined. To assign scores, simply click on the point that you think corresponds to the position of the party. Please try to assign a rating for all parties.

The respondents were then presented with 19 issue scales of which 15 were standard items designed by Laver and Benoit (2006). The following 8 parties' policy positions were examined.

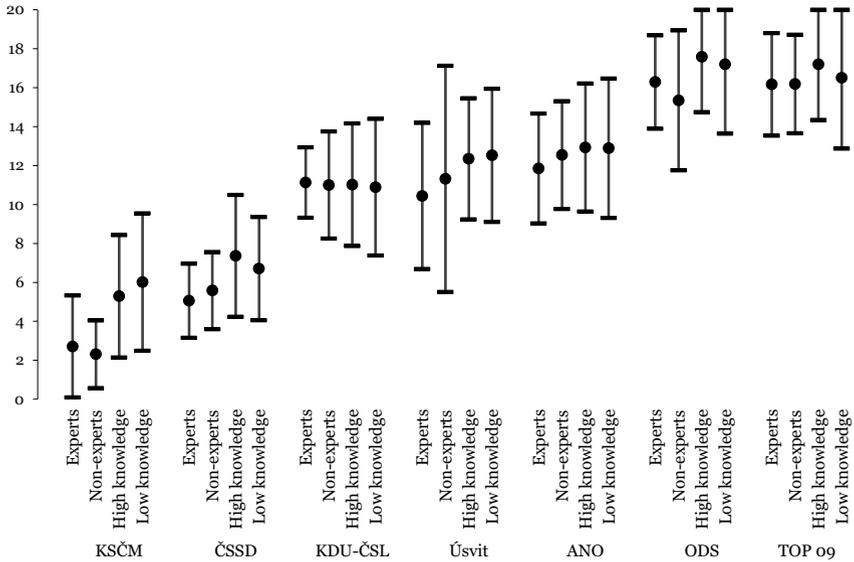
1. Social Democratic Party (ČSSD): centre-left, social liberal
2. Communist Party of Bohemia and Moravia (KSČM): left, social conservative
3. Tradition Responsibility Prosperity (TOP 09): centre-right, fiscally conservative
4. Civic Democrats (ODS): centre-right, liberal conservative
5. Yes 2011 (ANO 2011): right, liberal, populist
6. Tomio Okamura's Dawn of Direct Democracy (Úsvit): right, populist
7. Christian Democrats (KDU-ČSL): right, social conservative
8. Green Party (SZ): ecology, social liberal

In addition, respondents were also asked how closely they felt to each of the eight parties examined. Overall, the 157 participants (63 experts and 94 non-experts) in this research answered close to 200 questions. These data provide a rich source of information about the knowledge of Czech experts on the policy positions of parties that competed in the Lower Chamber Elections of October 25–26, 2013. Here the party policy positions expressed by experts will be compared with non-experts (who also participated voluntarily in the expert survey), and voters with high and low levels of political knowledge who participated in the Czech National Election Study fielded in November 2013. A comparison of policy positions and levels of consensus will be used to see if higher levels of knowledge are associated with more precise (narrower range) estimates around the mean left-right scale scores.

### *13.3.1 Consensus on the policy positions of parties*

Measures of central tendency (arithmetic means) and dispersion (standard deviations around the mean) were estimated for seven parties (the Greens (SZ) are excluded due to having no seats in the lower chamber since 2010) by four groups differing in their levels of knowledge and expertise. The results presented in Figure 13.1 show two things. First, there is a clear progression of policy positions ranging from left (zero, 0) to right (20) and this is evident for each of the four groups examined. Second, there are considerable overlaps across all groups indicating that the mean policy positions of the least and most knowledgeable were statistically indistinguishable.

**Figure 13.1: Comparison of the left-right positions of parties by groups with different levels of knowledge**

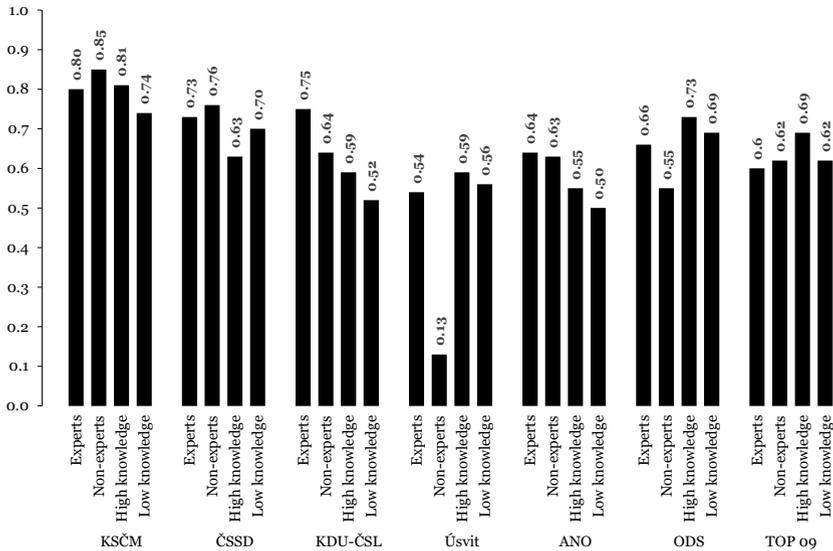


Sources: Czech Expert Survey on Party Policy Positions (2013) and the Czech National Election Survey (2013). Note that the black solid circles indicate mean estimates and the vertical lines with ‘whiskers’ indicate the 95% confidence intervals. The estimates from the expert survey ranged 1 to 20, while in the post-election survey of voters the scales were 11-point (0–10). Consequently, it was necessary to rescale the voters’ scale to a common 20-point metric.

The main lesson to be taken from Figure 13.1 is that differences in levels of knowledge and expertise are not linked with ‘better’ performance in placing some of the main parties who participated in the Lower Chamber Elections of 2013. Moreover, the spread of the estimates around the means, indicated by the standard deviations, are similar for those with higher and lower levels of expertise. Figure 13.1 also reveals that estimates for parties of the left, centre, and right overlap. This means that for many respondents the relative ordering of the parties from left to right is not clear. The estimates for KSCM and ČSSD overlap considerably, as do those for the three centrist parties (KDU-ČSL, Úsvit and ANO). The positions of the two right-wing parties, ODS and TOP 09, are indistinguishable.

Using the Perceptual Agreement (PA) statistic, it is apparent from Figure 13.2 that for most parties experts do not have a higher level of

**Figure 13.2: A comparison of the level of consensus on the left-right positions of parties by groups with different levels of knowledge**



Sources: Czech Expert Survey on Party Policy Positions (2013) and the Czech National Election Survey (2013). Note the bars refer to Perceptual Agreement (PA) statistics. The subsample sizes are experts (n=32 to 48), non-experts (n=22 to 26), high knowledge voters (n= 505 to 580) and low knowledge voters (n=285 to 940).

consensus than all others. The expected hierarchy in consensus in descending order, experts, non-experts, high knowledge, and low knowledge voters, is clearly observed for KDU-ČSL and ANO. One might criticise the results in Figure 13.2 as being meaningless. This is because high consensus on its own might refer to agreement on correct or incorrect answers. By taking Figures 13.1 and 13.2 together it is clear that all groups have similar party placements, so the consensus (or PA) statistics do show group agreement on correct answers.

Overall this evidence shows that the higher knowledge of experts does not lead to (1) different answers regarding the left-right policy position of parties in comparison to all others, and (2) experts to do not exhibit higher levels of consensus about the correct policy positions of parties. It could be argued that the left-right placement of parties is too easy a question and does not provide a good test of the differences between

experts and low knowledge respondents. Such arguments do not take into account the political importance of left-right in shaping vote choices. With the emergence of new parties, such as ANO and Úsvit, in the 2013 elections it would have been difficult for voters (and experts) to decide the positions of these new parties because of their populist campaigning styles. Figure 13.1 shows that all those interviewed, regardless of level of knowledge, placed these new parties in the centre. Higher levels of objective or factual knowledge may not have helped in reducing uncertainty about the relative ordering of parties from left to right.

### *13.3.2. Accessibility of attitudes and level of knowledge*

In the Czech Expert Survey on Party Policy Positions (2013) it was also possible to time the duration of the responses to the questions asked. The duration of responses is useful because it provides a proxy indicator of the accessibility of the information asked of the expert respondents during the online interviews. Here the time between opening a question window and closing it, having answered all questions on the webpage (i.e. 8 party items), was measured on the basis of 'start' and 'stop' mouse clicks or two successive keyboard button presses.<sup>50</sup>

The main idea behind measuring the duration of survey answers, also known as 'response latencies', is that strong and stable attitudes will have (all other things being equal) lower intervals between question and answer than weak and unstable attitudes (Bassili and Fletcher 1991: 332). According to this logic, individuals with higher levels of knowledge will answer questions at a faster rate than all others because the information required to answer a question is more accessible (see Heerwegh 2003: 370). With the expert survey data it is possible to see if (a) the duration for responses to the 'objective' party policy placement questions for each of the eight parties based on knowledge, and (b) the 'subjective' sense of personal closeness to each of the parties differed.

Below are the texts of two questions used. These items were presented in an identical format to respondents toward the very end of the online interview. This procedure should have ensured that all other factors influencing response times were the same for both consecutive items.

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<sup>50</sup> This research procedure is not perfect because respondents could have opened a question page and then left their computer and returned some time later. In contrast, a respondent could have answered all questions using the same response (acquiescence response bias) and have a very short response time. The experts exhibited more extreme response times (3 to 258 seconds) than the volunteer non-experts (23 to 118 seconds). In the absence of more details of how respondents answered the online questions, the data here are taken at face value, where the expectation is that outliers and noise in the data work against finding significant effects, i.e. the approach minimises type 1 error.

*Q.19: Objective left-right question.* 'Please locate each party on a general left-right dimension, taking all aspects of party policy into account.' The response scale had 20 points with labelled anchors: (1) 'Left' and (20) 'Right'.

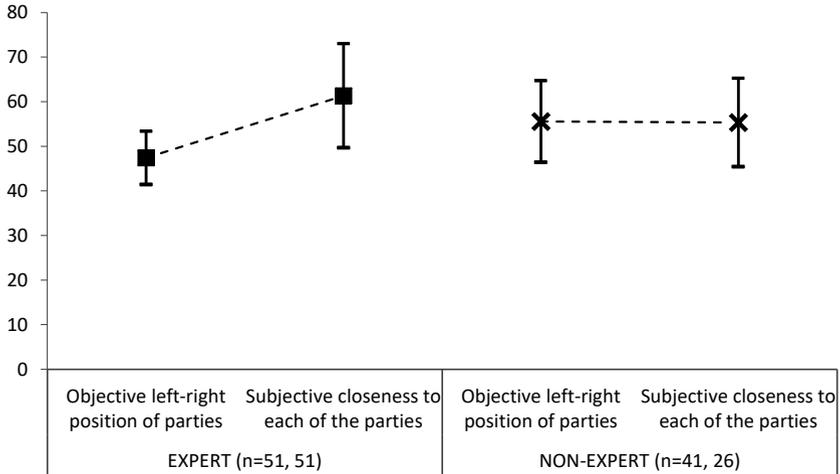
*Q.20: Subjective party closeness item.* 'Taking all aspects of party policy into account, please score each party in terms of how close it is to your own personal views.' The response scale had 20 points with labelled anchors: (1) 'Same as the respondent' and (20) 'Farthest from the respondent'.

The goal here was to see which type of respondent (expert vs non-expert) and question theme (objective vs subjective) were associated with relatively low and high response times. If knowledge is important, then experts should be able to answer both questions more quickly than all others. This is because they have easy access to all information required. However, if level of political knowledge has limited, or indirect, effects, then the differences observed between experts and non-experts will show a more complicated pattern. Here four distinct combinations of respondent and question types might be considered plausible expectations as to how level of knowledge and attitude accessibility are related.

First, one could argue that both the objective and subjective questions would be equally easy to answer. Consequently, the response times will be the same for both experts and non-experts. Second, it is reasonable to think that experts with high levels of knowledge would find it easier to answer the objective questions (resulting in a lower duration) because these topics are part of their daily work. The experts would find the subjective question more difficult (and hence have higher durations) because this question involves a larger range of considerations than simply left-right, or because the expert does not often consider this question and requires more time to formulate and answer. Third, non-experts will use a similar strategy for answering both questions where the relative left-right positions of parties and relative distance from the respondent are based on 'assimilation and contrast effects' (a theme discussed earlier in Section 11.2.1 of Chapter 11. Fourth, non-experts would find the objective question more difficult (indicated by a higher duration) because more thinking is required, in contrast to the subject question which is something they have already considered when voting in an election resulting in a shorter duration.

The response time data was the number of seconds between opening and closing the web pages with the questions. The raw data are used because (1) creating a baseline response rate for each respondent or (2) transforming the duration data using a square root function to make right skewed count data (with low values close to zero) makes little sense (see Bassili and Krosnick 2000; Fazio 1990). The reasoning here is that the durations refer to batteries of eight items, so the durations are not dominated by small values, and there are relatively few respondents in the data

**Figure 13.3: A comparison of the response times of experts and non-experts to objective and subjective knowledge questions**



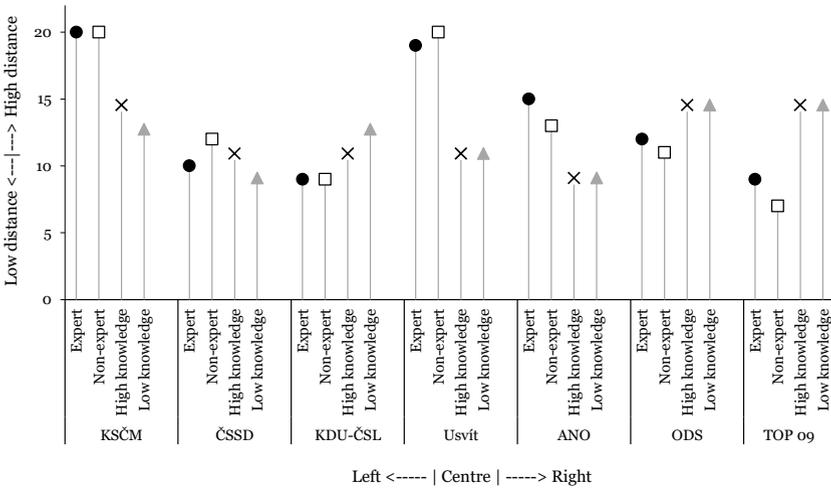
Source: The Czech Expert Survey on Party Policy Positions (2013)

Note the vertical axis indicates duration is in seconds. The black solid squares and crosses (X) refer to mean scores and the vertical lines with whiskers show the 95% confidence intervals. The number of observations varied across the questions due to item non-response. The objective and subjective questions used a 20-point scale and so should have been equally difficult in terms of the mechanics of making a response.

set to make individual baseline rates worthwhile. Moreover, for these two questions the summary statistics do not indicate problems with outliers.

The results shown in Figure 13.3 reveal support for explanations two and four presented above. Looking first at the experts. For the first objective question, the average response time for the group of expert respondents (n=51) was 47 seconds, while the average response time for the subsequent subjective question was significantly higher at 61 seconds (Kruskal-Wallis  $\chi^2 = 4.14$ , df=1, two-sided p=.042). Now turning our attention to the non-experts. For the first objective question, the mean response time for the non-experts (n=41) was 56 seconds, and the average response time for the subjective question (here there was a smaller sample size, n=26) was not significantly different at 56 seconds (Kruskal-Wallis  $\chi^2 = .08$ , df=1, two-sided p=.777). An examination of differences in response times between experts and non-experts for the objective question yields no differences (47 vs 56 seconds, Kruskal-Wallis

**Figure 13.4: A comparison of the relationship between distance from parties and level of expertise and knowledge**



Sources: The Czech Expert Survey on Party Policy Positions (2013) and the Czech National Election Survey (2013)

Note the estimates are medians. The vertical axis refers in the expert survey to closeness where a low score such as one (1) indicates being the ‘same as the respondent’ while a high score such as twenty (20) reveals being ‘farthest from the respondent’. In the voter survey the scale refers to (1) liking or (20) disliking a party. The parties are ordered on the basis of left to right as defined by the experts. The subsample sizes are experts (n=32), non-experts (n=23), high knowledge voters (n=863), and low knowledge voters (n=947).

$\chi^2 = 1.44$ ,  $df=1$ , two-sided  $p=.230$ ). In addition, no difference was observed for the subjective question (61 vs 55 seconds respectively, Kruskal-Wallis  $\chi^2 = .78$ ,  $df=1$ , two-sided  $p=.377$ ).

A graphical representation of these results shown in Figure 13.3 highlights two main findings. First, experts found it easier to answer the objective question while non-experts found it equally difficult to answer both the objective and subjective items. Second, there is no difference between experts and non-experts in answering the objective and subjective questions. It is important to reiterate that these results make two important assumptions: (1) the duration for answering these questions is a measure of difficulty, and (2) experts have more objective political knowledge than non-experts because of their employment in universities as political scientists.

The relationships shown in Figure 13.3 this suggests that having high levels of factual political knowledge may not make voting correctly easier

in the sense that deciding which party is personally closest was equally difficult for experts and non-experts. Correct voting is defined here as choosing the party that is closest in a spatial (Euclidean) sense in terms of left-right placement. Easier access to objective rather than subjective attitudes among experts (with no difference among non-experts) is an important finding. This difference indicates that the mental processes resulting in answers to objective and subjective questions either (a) occur in isolation from each other or (b) are qualitatively different.

Here it makes sense to consider for a moment the influential ‘dual systems’ approach to making choices, a theory discussed in Chapters 6, 7 and 11. The dual systems model of decision-making is appropriate for response latencies data because key features of the theory are defined in terms of how quickly choices are made. Specifically, System 1 is characterised as being fast, automatic, emotional, stereotypic, and subconscious. In contrast, System 2 is typified by being slow, effortful, logical, calculating, and conscious. Consequently, answers to the subjective items will be based on System 1, which is more accessible because it is grounded in instinct and emotion: no deep thinking is involved as answers are spontaneous. Therefore, the recorded response times should be of short duration. In contrast, answers to the objective questions that involve use of System 2 will be based on slow, deliberative and logical thinking. Here the response times will be, relatively speaking, of long duration.

This is not the pattern observed on the left of Figure 13.3. Locating parties on an abstract left-right scale is more intuitive (System 1) for experts than considering their personal feelings of closeness to parties (System 2). The main lesson here is that higher knowledge makes thinking abstractly about politics more intuitive (System 1); however, this may not make casting a vote cognitively easier where System 2 is used to make a choice.

### *13.3.3 Closeness to party and level of knowledge*

As a final step, it is possible to compare the perceived distance from specific parties among experts, non-experts, and voters with high and low levels of knowledge. This question is important because showing a relationship between closeness to a party and level of knowledge reveals what is likely to happen if all citizens were to become political experts. In the expert survey the subjective party closeness question (described in the previous subsection) refers to feelings of policy closeness. Czech voters in the post-election survey were not asked this question, but were asked how much they ‘liked or disliked’ each of the parties. These two questions are similar to the extent that they are measuring experts’ and voters’ subjective feelings of distance from most of the main parties that competed in the Czech Lower Chamber Elections of 2013.

Fortunately both the expert and voter questions examined each party individually and used large scales, i.e. 20- and 11-point scales respec-

tively. The voter party like/dislike responses were rescaled to match the expert 20-point items. Voters were divided, as in an earlier section, into low and high knowledge. The results presented in Figure 13.4 reveal two main things about political experts. First, Czech political scientists feel most distance from extreme parties on the left (KSCM) and populist parties (Úsvit and ANO). Second, these experts are closest to centre-right (KDU-ČSL) and right-wing parties (ODS and TOP 09). In contrast, low knowledge voters feel closest to leftist and populist parties (ČSSD and ANO), and most distant from right-wing parties (ODS and TOP 09).

## Conclusion

The focus of this chapter has been on experts who are by definition people with high levels of objective or factual knowledge in specific areas. Using expert surveys of philosophers, economists, and political scientists, this chapter has shown that those with high levels of knowledge often do not answer important questions in the same way. In other words, high levels of knowledge do not yield consensus on what might be considered the 'correct' answers. Consequently, if citizens were to attain the high level of knowledge of experts it is likely that they would also express contrasting policy preferences in elections. The expert surveys of Czech economists and political scientists reveal that these experts tend to have a right-wing orientation favouring free market answers to policy questions. This implies that higher average levels of knowledge among citizens would yield a more right-wing electorate.

There is an equally strong reason to think that the plurality of views among experts would also be replicated, and perhaps even amplified among citizens. Such a situation of greater general knowledge among voters might lead to higher levels of polarisation and social fracturing among the electorate. This is because being knowledgeable could be associated with a lower willingness to compromise and a readiness to be persuaded of the arguments of others: key mechanisms in democratic decision-making. The emergence of polarisation in the politics of the contemporary United States, especially among the highly educated holding national offices in the Congress and the Senate, reveals how factors that amplify partisan differences can lead to a weakening of democratic governance.

Finally, it is important to recognise one important limit of expert knowledge highlighted in this chapter. Beliefs and value judgements have a strong impact on what are considered desirable goals for society such as equality, efficiency, fairness and opportunity. In many debates about current concerns, such as (a) man-made climate change and (b) increasing wealth inequality, individuals' knowledge based on facts and their core values are intertwined in a way that it is not possible to say that higher knowledge would produce superior choices. This is because values (or motivated reasoning) shape what knowledge is learned and

how it is used, and this is truer for experts than for less informed citizens (Lodge and Taber 2013). More will be said on this point in Section C.2 in the (next) concluding chapter.

The evidence presented in this chapter also has a cautionary message relating to the dangers of the ‘illusion of knowledge’ among experts, which may be as important a concern as citizen ignorance in liberal democracies. This is because experts’ over-confidence and overclaiming when making public pronouncements may cause more social damage than uninformed or misinformed citizens who do not have direct input into high level decision-making by political leaders.

# Conclusion

Citizens, especially those who know and care the most about public policies, are not open-minded. They are not inclined toward balance or even-handedness when thinking about and discussing politics. Rather, they are motivated reasoners who seek out congenial sources of information and defend their attitudes and beliefs when challenged, and as a consequence they tend to polarize in the face of both confirming and disconfirming information.

Strickland, Taber and Lodge (2011: 935)

## Knowledge as Critical Thinking

One of the most powerful books written in Czech about the importance of having factual political knowledge and the necessary critical skills to understand contemporary Czechoslovak politics is Pavel Tigríd's (1988) influential *Kapesní průvodce inteligentní ženy po vlastním osudu* (The Intelligent Woman's Pocket Guide to Her Own Fate). Published immediately prior to the Velvet Revolution and the fall of communism, the book is a dialogue between an anonymous older male narrator (the author) living in Paris and a young woman named Lucie (Lucy).<sup>51</sup> Both compatriots meet through happenstance when they take holidays on the Adriatic coast in Yugoslavia. Over a series of dialogues spread across a fortnight, Lucie is told in a mostly factual manner by her older mentor about key events in Czechoslovak history, such as the Munich Agreement of 1938, the Košice Government Programme (1945), the political trials of Rudolf Slánský and Milada Horáková and the Stalinist purges of the 1950s, the Prague Spring of 1968, and the nature of other communist societies in Eastern Europe during the 1970s and 1980s.

Since Lucie has grown up under communism (the timeframe here is unclear, see fn. 51 below) her factual knowledge has been limited by state censorship, and her interpretations of politics are grounded in her socialist education and views of her family and friends. Through the thirteen dialogues Lucie develops a new political awareness, a process motivated by dissatisfaction with her life and an impending decision, as her holiday ends, to emigrate to the West and leave Czechoslovakia. The central theme in this political conversation with Lucie has echoes of the philosophical dialogues of Socrates reported by Plato in such works as the *Theaetetus*, the *Meno*, and the *Republic*. The central premise of all political dialogues is of course the determination of knowledge through the elucidation of what are concrete defensible 'facts' and what are ill-considered.

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51 This novel is strongly linked with the events of 1968; the first part of this book was written between 1965 and 1967 before the Prague Spring, and the second part in 1974 immediately afterwards. This tumultuous political context provides the fundamental questioning that permeates the book and attempts to explain political reality to the next generation.

ered opinions that contain hidden assumptions and biases (note Robinson 1941: 7–34). This is done through three types of questions: opening, guiding, and closing – strategies evident in Pavel Tigríd’s novel.

In many of Plato’s early dialogues such as the *Theaetetus* and the *Meno* an elenctic (cross-examination) form of investigation leads to an ‘*aporia*’, or impasse, in which no further progress is possible. Similarly, Tigríd’s novel ends with an unresolved question: does Lucie decide to emigrate or not? In a Socratic pedagogical sense it is not the answer that matters most. This is because there are never definitive answers to philosophical questions and this is what it means to be a follower of Socrates. The process of gaining knowledge through figuring out what can be trusted, what should be questioned, and what has to be ignored when making decisions is most important. Pavel Tigríd’s dialogues with Lucie reveal that a more detailed study of many events in Czechoslovak history leads to increased ambiguity and uncertainty, meaning political knowledge is crucial in deciding one’s own beliefs and fate. *Aporia* motivates a person to recognise what they do not know and to seek (new) answers.

Within this book there has not been a systematic consideration of how much individuals should know in order to be effective citizens. This has been an important subject of numerous normative political texts and a growing number of empirical works that often highlight that even when citizens do participate in politics, it is most often not ‘enlightened’ participation (Caplan 2007a; Brennan 2009, 2011a,b, 2016; Brennan and Hill 2014; Somin 2013). In other words, the knowledge-based criterion for effective democratic citizenship, and by implication efficient systems of public policy, is now seen to be a central element in proposals for reforming democratic systems. These debates have become increasingly urgent because the global economic crisis of 2008 onwards has set the agenda for a thoroughgoing reform of both financial markets and national systems of governance.

In this respect, part of the blame for national economies’ unsustainable public finances is voters’ unwillingness to support public reforms that would dismantle key features of the social welfare state as part of a wider policy of liberalising labour markets (e.g. Ringen 2013). Regardless of the national context, the common theme is that citizens’ practice of voting for parties who pander to their biases rather than offering sustainable long-term policies has to cease if there is to be a real economic recovery. Therefore, for putative intelligent citizens such as Lucie, possession of political knowledge is fundamentally important because it is the foundation for engagement with politics and enlightened decision-making by citizens.

In this concluding chapter, Section 1 summarises the main results of this book and why they are important. Section 2 briefly outlines a model of attitude formation and decision-making which shows that political knowledge may be a source of bias rather than enlightenment. In

short, factual political knowledge may be a bad thing. Section 3 presents an economic (and non-psychological) theory of ‘ordinary knowledge’ which argues that factual political knowledge is not useful for most people during their daily lives and consequently does not matter. Section 4 suggests that although citizen knowledge and competence matters, care has to be taken in concluding that inability to recall factual knowledge may not be an indicator of incompetence. In the penultimate section, it is argued that citizens’ low knowledge of politics is similar to their acquaintance with many other things, and is not remarkable. In the final section there are some concluding remarks.

### **C.1 What Has Been Learned in This Book?**

This book has explored the origins, nature and impact of different facets of political knowledge in the Czech Republic between 1967 and 2014. Four types of political knowledge, i.e. objective, subjective, implicit, and interpersonal, have been examined. The central argument has been that evaluating citizens on the basis of objective or factual knowledge alone makes little sense. What citizens know about politics comes from a variety of sources that are complementary. The four sections in this book moved from (1) outlining a theoretical framework for thinking about political knowledge, to (2) considering how political knowledge is measured, and thereafter (3) why some people are more informed than others, to (4) what are the consequences of having low and high levels of knowledge. A summary of the main findings are outlined in the following subsections.

#### *Section 1: Theory*

In the theory section of this book, the concept of political knowledge was placed within the larger framework of three philosophical theories of truth. Often discussions of political knowledge start with assumptions such as higher levels of factual knowledge are desirable in democracies. The question of what is political knowledge is often equated with the ability to recall specific facts. Chapter 1 argued that different approaches to political knowledge within political science are grounded in contrasting assumptions about truth and knowledge. Currently, the correspondence theory of truth based on observed facts is the dominant way in which political knowledge is measured. However, evidence from an expert survey of philosophers presented in Chapter 13 showed that most philosophers do not support a purely factual conception of knowledge.

Within this book the term ‘objective political knowledge’ has been used to refer to the scores from survey-based quizzes. With objective political knowledge there is the important question of how to statistically model political quiz data. Often a person’s level of political knowledge is based on how many questions they got correct in a quiz; where it is assumed all questions are of equal difficulty, which is rarely the case.

Chapter 2 highlighted the advantages of using Item Response Theory (IRT) to model the correct answers to survey-based quiz questions such as being able to compare knowledge scores across different surveys.

Later chapters that compared and contrasted objective, subject, implicit and interpersonal facets of political knowledge extended the theoretical scope of the book. Unlike the other facets of political knowledge, implicit knowledge is based on preconscious processes. Chapters 7 and 10 revealed that implicit knowledge has different origins to the other facets of knowledge. Lodge and Taber (2013) highlight that political decision-making is most often based on unconscious processes that may be similar to the implicit knowledge approach presented in this book. In future work, a more comprehensive theory of political knowledge must include pre- and non-conscious foundations.

### *Section 2: Data and Measurement*

Chapter 3 provided an overview of patterns and trends in objective political knowledge between 1967 and 2014. Post-election survey data from all lower chamber (general) elections between 2002 and 2013 indicate that the general level of political knowledge has been constant. Specific surveys with some knowledge questions fielded in 1967, 1986 and 1992 provide insight into who was an informed citizen at key points in contemporary Czech history, and why it mattered. For example, knowledgeable citizens understood in 1992 that the dissolution of the Czechoslovak federal state was likely if specific parties such as the Civic Democrats (ODS) won the federal elections.

How objective political knowledge questions are answered by survey respondents was explored in Chapter 4 in terms of survey response styles. This chapter argued that analysing the correct answers to survey quiz questions must deal with the propensity of some respondents to guess the answers rather than say 'don't know'. Using a unique Cold War-era survey (Images of the World in the Year 2000, fielded on both sides of the Iron Curtain between 1967 and 1970), this chapter revealed that national cultural differences are also an important source of how respondents answered objective political knowledge questions. For example, national cultures characterised by higher levels of 'power difference' and 'uncertainty avoidance' have higher levels of 'don't know' answers to knowledge questions.

The idea that political knowledge may be generated in a collective manner rather than defined by experts leads to the concept of subjective political knowledge. This concept was presented in Chapter 5. Subjective political knowledge is based on the mathematical theory and statistical methods used in Cultural Consensus Theory, which is inspired by Condorcet's Jury Theorem. A comparison of subjective and objective political knowledge in Chapter 5, using the Motivation-Ability-Opportunity (MAO) explanatory framework, reveals that both types of knowledge have distinct origins. Subjective political knowledge may be more im-

portant than objective or factual knowledge because many public policy questions do have objective factual answers. In such situations, consensus-based knowledge may be the best ‘democratic’ way to make a choice.

In Chapter 6, two additional types of political knowledge were introduced. As noted above, implicit knowledge is a skill used by citizens in their daily life, but is something that cannot be explained because it is an unconscious or preconscious process. In contrast, interpersonal knowledge refers to having a reputation for being informed and need not be strongly associated with actual level of factual knowledge, as indicated by an objective or factual knowledge score. Implicit knowledge was measured using competence ratings of candidate ballot photos where the ‘correct’ answer was the candidate who got the most votes in an earlier Irish general election. A key point here is that the Czech respondents could only use the facial ballot photos to make a choice. A comparison of the determinants of objective, implicit, and interpersonal knowledge using the MAO explanatory framework showed that each of the three knowledge types have different foundations. In other words, not all forms of political knowledge are the same. In sum, political knowledge is composed of distinct facets.

### *Section 3: Determinants of Political Knowledge*

A central question addressed in this book is which Czechs are most informed about politics and why? Chapter 7 illustrated in detail how the MAO explanatory framework (and various extensions) is used to explain individual differences in objective political knowledge. An extensive use of post-election surveys with a broad range of questions revealed that motivation is the most important reason for individual differences in factual knowledge. Using level of education as a proxy for cognitive ability, or intelligence, is problematic. This is because education effects tend to reduce the explanatory power of other factors because education reflects a person’s social background.

There is good reason to think that objective political knowledge is a continuum that ranges from being misinformed with some knowledge that is incorrect; to being uninformed with no knowledge at all; to being informed. Chapter 8 showed using the MAO explanatory framework that the profiles of the uninformed and misinformed are largely the same. Moreover, the profile of those Czechs who give ‘don’t know’ answers to political quiz questions indicates they are uninformed, and not partially informed and unwilling to guess the answer. Consequently, classifying the answers to factual knowledge questions as correct versus all other answers seems appropriate.

One reason why some Czechs know more facts about politics than others may be due to the personality traits of the person. Chapter 9 showed, using the Big Five personality trait framework, that openness to experience, conscientiousness, and emotional stability all have positive associations with higher levels of factual political knowledge. Only

conscientiousness and emotional stability remain statistically significant ( $p < .05$ ) predictors of factual political knowledge even when additional MAO explanatory framework variables are considered.

Chapter 10 brought together themes developed earlier in Chapters 6 through 9 by exploring the impact of personality traits on three facets of political knowledge (objective, implicit, and interpersonal) while controlling for MAO factors and styles of thinking. The fact that a person is motivated, has strong cognitive skills and has access to political news does not mean they will be informed. This is because their minds may be closed to new facts that are inconsistent with their prior beliefs due to motivated reasoning (Lodge and Taber 2013). The three facets of political knowledge have different personality trait foundations. Objective or factual knowledge is associated with three of the Big Five personality traits, while implicit and interpersonal knowledge are associated with single traits. As individuals have more than one personality trait, it makes sense to think that (1) different traits may interact with each other, and (2) traits may interact with other non-trait factors to promote higher levels of factual knowledge. This is indeed the case. For example, conscientious and agreeable people are better able to recall political facts during survey interviews.

#### *Section 4: Consequences of Political Knowledge*

One important reason for having a high level of factual political knowledge is voting for a party that best represents the citizen's interests. Chapter 11 showed that in the Czech Republic there is a positive relationship between correct voting and higher levels of political knowledge. However, the impact of objective political knowledge on voting correctly was critically influenced by the decision to turn out to vote. Level of factual knowledge was shown in Chapter 11 to have no significant ( $p < .05$ ) impact on correct voting when turnout is included in the model estimated. Among Czech voters it seems that the direct impact of political knowledge on correct voting, taking turnout into account, has significant effects only when the election offers a clear (polarised) choice to voters. When the electoral context becomes more complicated, with the advent of new parties for example, then factual knowledge does not help in explaining correct voting. In short, the link between objective political knowledge and correct voting depends on (a) taking account of the initial turnout decision and (b) the electoral context.

Another important reason for being informed is the ability to predict future events or to be able to foresee the consequences of particular political choices. The Images of the World in the Year 2000 survey, fielded in Czechoslovakia in June 1967, is a unique source for studying a citizen's predictive ability about life in the year 2000, i.e. 33 years into the future. Chapter 12 showed that greater forecasting ability for scientific advances was linked at the individual level with being open-minded and critical of national policy. With social predictions of anomie being criti-

cal, having an interest in politics, higher levels of education and having a good knowledge of politics were also important in forecasting greater anomie three decades into the future. The impact of objective political knowledge in predicting social trends (anomie) was only evident in the Czech and West German samples.

One democratic ideal is that all citizens have high levels of factual knowledge similar to experts. Using expert surveys, Chapter 13 investigated if Czech economists and political scientists have a consensus on (a) policy matters and (b) the left-right position of parties respectively. The expectation was that experts would show more consensus in views because of a shared professional knowledge than less informed citizens. This is not the case. Czech economists do not show a strong consensus in support of a liberal free market view of public policy. Czech political scientists' estimates of parties relative left-right positions do not exhibit higher levels of consensus than all others. The implication is that higher levels of factual knowledge among Czech voters would not lead to greater agreement about public policy goals.

### *Key Lessons Learned*

With regard to objective or factual political knowledge the prevailing conception within political science is that information is stored in long-term memory. Portions of this information, called 'considerations' by Zaller (1992), are selected to answer survey questions about politics. Differences in level of factual political knowledge shape the degree to which the information used to answer a survey question is directly related to the question itself. A vote intention for a candidate reflects the closeness of the policy position between the candidate and the voter rather than the voter thinking that the candidate has a nice or competent looking face.

More technically selective exposure, confirmation bias, disconfirmation bias, etc., stem directly from the content of the factual knowledge used by a person to answer a survey question (see the next section for more details). Consequently, higher levels of factual knowledge lead to better answers because there is less bias. This is not always true. Having a higher level of knowledge is sometimes associated with 'motivated reasoning', where a person on the basis of prior beliefs ignores information that contradicts their core beliefs (Taber and Lodge 2006).

For example, higher levels of scientific knowledge do not result in a convergence in attitudes based on the evidence, but leads to a polarisation in attitudes (Kahan et al. 2012; Kahan 2015). In this situation, more factual knowledge (as measured in short fact-based quizzes in surveys) makes matters worse because the consensus required for democratic decision-making becomes harder to achieve.

The motivated reasoning perspective on political knowledge, as will be described in greater detail below, has a much broader conception of knowledge. This is because the sources of political knowledge are greater when the influence of emotions and the unconscious are seen to play

a critical role in attitude formation and decision-making. The broader conception of political knowledge adopted in this book has attempted within the available survey evidence to show that the knowledge Czech citizens bring to making political choices involves facts, implicit social skills, being aware of common knowledge, and having a reputation for being informed and influencing others.

A broader conception of political knowledge involves taking into account objective, subjective, implicit and interpersonal facets. But this is just the beginning because these facets of political knowledge are based on observational survey evidence. Increasingly, political science is using experiments to explore questions using methods that are impossible with mass surveys. One of the key areas of this new experiment-based research is called motivated reasoning.

## C.2 Political Knowledge and Motivated Reasoning

Normative democratic theory makes four important assumptions: (a) citizens are *motivated* to take interest in politics, (b) have the *ability* to understand political news, and (c) have the *opportunity* to access such news. This MAO perspective results in a democratic citizenry with high levels of factual political knowledge who make rational decisions. The survey evidence shows that most citizens who are interviewed can recall few facts about politics, do not have coherent political attitudes, and are unable to choose sensibly among parties and candidates in elections.

If citizens had higher levels of factual knowledge about politics then systems of democratic governance would operate more effectively. Citizens would make more informed rational choices. Recent experimental work in political psychology casts strong doubt on the normative democratic theory and rational choice view that more factual knowledge is always better. The most influential recent work is Lodge and Taber's (2013) motivated reasoning model of how real people, rather than the citizens of democratic theory, form political attitudes and make choices.

### *What is the link between motivated reasoning and knowledge?*

Within political science the dominant view is that attitudes and decisions are made consciously through deliberation. More recently, an alternative perspective reveals that political attitudes and decisions are grounded in emotion and cognitive processes that are preconscious. Here new information is evaluated subconsciously on the basis of prior beliefs and is either ignored or interpreted in a biased way (Lodge and Taber 2000, 2013; Taber and Lodge 2006). It is argued that political thinking and decision-making is determined by two main criteria: (a) correctness and (b) partisanship.

The first criterion motivates a person to make correct choices such as supporting a party that best represents the voter's personal policy preferences. The second criterion refers to seeking or rejecting information

that does not fit with their party identification and core beliefs. Partisanship is important because it leads a voter to consider new information that is consistent with prior beliefs. In this situation, a partisan voter with high knowledge is likely to be biased. This also implies that partisans with high knowledge are more likely to view new information in terms of prior beliefs because they have more cueing information available for bias.

Lodge and Taber's (2013) model of motivated reasoning (labelled more informally as the John Q. Public or the JQP model) is based on emotion rather than cognition as in Zaller (1992). Consequently, most political information relating to issues, candidates and parties has an important emotional or affective element and this means that information is interpreted for its emotional content prior to conscious thinking. Some of the key features of motivated reasoning may be summarised in the following six sources of biased thinking and decision-making.

- *Confirmation bias.* Citizens will freely choose information sources that support their prior beliefs rather than sources that undermine these beliefs.
- *Disconfirmation bias.* Citizens will put more effort into formulating negative contrary arguments than putting forward positive supportive arguments.
- *Attitude polarisation.* Citizens who are exposed to a balanced set of positive and negative points of view will become more extreme in their answers.
- *Prior attitude effect.* Citizens who have strong views on an issue will judge supportive arguments more favourably than negative ones, even if they are asked to be objective.
- *Attitude strength effect.* Citizens who are more opinionated are more susceptible to the biases listed above.
- *Sophistication effect.* Citizens who have high levels of knowledge are better able to rationalise their positions with positive and negative arguments and will be more susceptible to the biases listed above.

These forms of bias have been explained by Zaller (1992) in his Receive-Accept-Sample (RAS) model as originating in conscious thinking and decision-making, where the answers to survey questions come from long-term memory. In contrast, Lodge and Taber (2013) view motivated reasoning, leading to the six biases described above, as primarily the product of an automatic (preconscious) process that is started by an emotional reaction to new political information. The differences between the RAS and JQP models are both theoretical and operational. The RAS model is based on evidence from survey research where respondents are asked to list the considerations used to construct an answers.

In contrast, the JQP model argues that requesting survey respondents to recall what considerations came to their mind in formulating an

attitude is asking the impossible. This is because the origins of their emotion-based answers are preconscious and not available for listing. What is generated in the lists of considerations in RAS inspired research are rationalisations rather than real reasons. Consequently, in operational terms, measuring political attitudes is currently best done in a laboratory where emotion-based answers are measured using response-times: here the accessibility of attitudes is reflected in the swiftness of the answers.

*What is the impact of motivated reasoning?*

Motivated reasoning matters for understanding the importance of factual political knowledge because it reveals that citizens who are exposed to political news that contradicts their longstanding beliefs will be motivated to reject this information. Higher levels of political knowledge make biased thinking and decision-making worse because of the emotional and automatic manner in which new political information is processed by citizens. More generally, the conclusion that higher levels of political knowledge increase biased and polarised attitudes and choices undermines the consensus required for democratic governance and social cohesion (Taber and Lodge 2006; Strickland et al. 2011; Lodge and Taber 2013: 149–169).

One implication of the motivated reasoning (JQP) model is that pervasive levels of political ignorance might in a collective sense be a good thing, as the potential for social and political polarisation is reduced. Such a position goes against the normative democratic theory view that more knowledge is always better. However, if more knowledge does not lead to a convergence toward an unbiased answer to public policy questions then arguments about the unblemished merits of political knowledge are illusory. More generally, lower levels of knowledge, political efficacy and other factors that lessen polarisation may have the positive systemic effect of lowering conflict and increasing stability.

Alternatively, a broader conceptualisation of political knowledge to encompass factual (objective), social (subjective), preconscious (implicit), and reputational (interpersonal) aspects may highlight how the exchange of information in society promotes increased decision-making efficiency and social peace. There is knowledge in difference, as Scott Page (2007) argues in his book on the collective benefits of diversity. In short, viewing political knowledge primarily in terms of the ability to recall facts in survey interviews is a limited view of what knowledge is, how it is created, and how it impacts on society.

### **C.3 An Economic Theory of Ordinary Knowledge**

One of the key themes in this book has been the view that objective or factual political knowledge is not the only form of knowledge possible. Keeping in mind that citizens may have a different conception of knowledge to philosophers and social scientists is imperative. At base, political

knowledge is important in how it is used by citizens. Russell Hardin (2009: 1, 203) has developed a conception of ‘ordinary knowledge’ that is primarily subjective, social, and local in nature. He conceptualises ordinary knowledge in the following way.

Ordinary knowledge is almost entirely grounded in hearsay from a supposedly credible or even authoritative source, although commonly the credentials of the source are not compelling and perhaps even more commonly we can no longer remember the source or its quality [...] virtually all of our knowledge comes from our larger society, not from our own discovery. Hence, it is fundamentally group based in large part, but the groups from which most of our knowledge comes are open and inclusive [...]

Hardin’s focus is on socially generated knowledge that is similar in broad terms to the subjective knowledge concept, inspired by Cultural Consensus Theory, presented earlier in Chapter 5. Hardin rejects philosophical theories of knowledge because they depend on some ultimate source of truth, whereas ordinary knowledge is based on information from others where the accuracy cannot be checked. Here the idea of objectively correct (or incorrect) knowledge makes little sense as knowledge is information that people find useful in terms of the costs and benefits involved. This is close to the pragmatic conception of truth presented in Chapter 1.

The social basis for this theory of ordinary knowledge is especially evident in how it is acquired: ‘Knowledge is in a cognitive category with belief and trust. Commonly, knowledge, belief, and trust are not things we choose. They are things that happen to us’ (Hardin 2009: 41). Hardin’s (2009: 2–3) theory of the economics of ordinary knowledge is summarised in the following three points.

First, knowledge has value as a resource and is therefore an economic good; hence, people will seek it [...] Second, the acquisition of knowledge often entails costs, so that its value trades off against the values of other things, such as resources, time and consumptions [...] And third, a lot of our knowledge, which we may call ‘happenstance knowledge’, is in various ways fortuitously available when we have occasion to use it.

By adopting an individual perspective on knowledge, Hardin highlights that some knowledge is not chosen as individuals are exposed to information involuntarily in school, at work, and elsewhere. This suggests that some of citizens’ political knowledge is context-dependent, where being in the right environment will facilitate being informed. This fits with the ‘opportunity’ part of the MAO model explored in many chapters of this book. If knowledge is mainly acquired in daily life by a majority of citizens, this suggests that prior beliefs may play an important role in how new knowledge is interpreted, as highlighted in the previous section dealing with motivated reasoning.

### *Knowledge and democratic participation*

A central theme in the study of political knowledge, as highlighted in Chapter 1, is Downs' (1957: Chapters 11 and 12) argument that it is not rational to vote because no single vote determines the outcome of an election. Consequently, it is also not rational to obtain knowledge about politics because there are costs but no benefits (Hardin 2009: 63, 67). Nonetheless, in many countries, such as the Czech Republic, a majority of citizens always vote in general elections. This is the general question that Hardin explores in his discussion of the economics of political knowledge. Hardin's (2009: 63–64) economic theory of ordinary political knowledge begins with Downs' (1957) economic theory of voting, which he summarises in three points.

1. Voters have little incentive to vote, because they cannot expect to have any impact on the outcome of any given election [...] This claim is a specific instance of the logic of collective action, as generalized later by Olson (1965).
2. Individual citizens have no incentive to learn enough to be able to vote their own interests intelligently [...] if we suppose that gaining relevant knowledge entails some costs.
3. To succeed a candidate must take a position at the median of a normal distribution of voters [...] this model assumes that all policy issues aggregately reduce to a single left-right dimension. (ibid.)

As citizens have no incentive to learn about politics they will not know which candidate is at the median policy position. Here candidates are motivated to ensure that the voters have enough knowledge to vote correctly. In order to understand the link between ordinary knowledge, 'which has a messy structure', Hardin (2009: 65) argues 'we need a subjective account of knowledge, not a public account'. In this respect, Hardin (2009: 66) makes the following point that most knowledge is based on testimony.

The typical citizen can often judge politicians on their records only on testimony of others, testimony that might be ill-informed and biased in important ways. Hence, the political knowledge that you or I have is culled from a vast social system, not from anything we actually checked out. Much of it can only be generated by a social system. We depend on knowledge of authority because it is efficient and because, without division of labor in generating our knowledge, we would have no time to putting much of it to use.

As much of the survey evidence reveals that voters have little knowledge of (a) the policy issues that impact most on their personal interests and (b) the policy positions of the candidates and parties seeking election, Hardin (2009: 69) concludes:

In such an ignorant population, *the median of the distribution of the voters is not well defined* [italics in original]. Hence with ignorant voters the economic model does not imply that candidates must place themselves very near each other [...]. The median voter theorem on candidate placement is therefore irrelevant in a world of moderate ignorance.

Hardin (2009: 74) argues that the crucial question of the link between level of political knowledge and turning out to vote is that ‘they therefore vote despite lack of objective interest in doing so. *Then why do they seem to follow the logic in not investing in the knowledge they would need to vote intelligently?*’ [italics in original]. In short, there is an important difference in the knowledge linked with turnout and voting correctly. Earlier, in Chapter 11, it was shown that among Czechs the main impact of factual political knowledge is on motivating turnout rather than voting correctly.

A knowledgeable citizen who was familiar with Mancur Olson’s (1965) logic of collective action would never vote. Most people do vote because they do not have the opportunity (e.g. studying one of the social sciences at university) or motivation to learn about the logic of collective action. In addition, going to the polls is a ‘quick single-shot action’, while correct voting requires a ‘sustained pattern of actions over a long period of time’ (Hardin 2009: 74). During election campaigns there are lots of discussions about turnout, but little is said about correct voting. This leads Hardin (2009: 76) to conclude that...

[...] we can say that there are real differences in both the benefit and cost of learning to vote intelligently. The differences in both of these voting issues suggest there is more reason to expect people to vote than to expect them to be well informed enough to vote intelligently in their interest.

Consequently, the main problem of political knowledge and democratic governance is not voter turnout, but the problem of investing in enough knowledge to vote wisely. According to Russell Hardin (2009: 77), this is the fundamental problem in democratic theory originally highlighted by Joseph Schumpeter ([1942, 1950] 2008: 262), and reiterated more recently by Bryan Caplan (2007a), Jason Brennan (2009, 2011a,b) and Ilya Somin (2013). As many issues today cannot be reduced to economic left-right, ‘the knowledge demands for a voter today may be much severer than they were in the earlier era’ (Hardin 2009: 78).

From this economics of ordinary knowledge perspective, Hardin (2009: 81) concludes ‘voters make the sensible choice to be relatively ignorant of politics’. From this standpoint, democracy works because people lack sufficient knowledge to know they should not vote; however, there is not effective political representation because citizens lack sufficient knowledge to vote correctly. Here we have one of the paradoxes of political knowledge that will be addressed in more detail below.

#### **C.4 Does It Matter How Citizen Competence Is Measured?**

Earlier in this book it was highlighted that the type of factual questions asked in a survey can have a big impact on determining if a person, or electorate, appears to be informed or not. More generally, within the study of deductive (or theoretical) reasoning, which is an important element in the use of political knowledge, it is known that the format of the test task given to individuals matters. For example, the ‘Wason Selection Task’ is an influential psychological test of deductive reasoning developed half a century ago (Wason 1968). One example of this thinking task is the following:

You are shown a set of four cards placed on a table, each of which has a number on one side and a coloured patch on the other side. The visible faces of the cards show 3, 8, red and brown. Which card(s) must you turn over in order to test the truth of the proposition that if a card shows an even number on one face, then its opposite face is red? (Wason 1977; Evans et al. 1993)

The key point here is that this task was implemented in various ways using numbers (as above) and alphabetical letters (vowels, consonants). In general, most people found the number and letter version of the test difficult, with only about one in ten getting the correct answer, i.e. turn the cards with the number ‘8’ and ‘brown’ (Wason 1977; Evans et al. 1993). However, when the task was presented as dealing with a practical social rule rather than abstract symbols, then most people are able to successfully complete the task (Cosmides and Tooby 1992).

For example, if the social rule used is ‘You must be at least 18 years to legally drink alcohol’, where two cards refer to the ages of ‘16’ and ‘25’ and the remaining two cards indicate ‘beer’ and ‘cola’, then a majority select the correct answer which is to turn the cards with ‘16’ and ‘beer’. This is an easy cognitive task for most people. Why is there this difference in measured thinking ability? One answer is that individual thinking is influenced by how the question is presented, and that humans are much better for evolutionary reasons at thinking about social rules than abstract symbols.

#### **C.5 Is Ignorance of Politics Unique or the Norm?**

As noted above, one of the reasons why most citizens do not score well on factual political knowledge tests implemented in surveys is that the information asked is not useful for daily life. In other words, the information examined in conscious working memory is limited, and many details are simply ignored because they are not considered important for day-to-day tasks. A good example of selective memory in daily life is illustrated in a famous psychology experiment conducted by Nickerson and Adams (1979) which found that most Americans do not know what a US penny actually looks like when faced with a multiple choice of fifteen types.

For a majority of people, it is sufficient to be able to distinguish between pennies and other coins in terms of colour and relative size. In the case of political knowledge, the inability to remember the name of the current minister of health is primarily about the information not being stored in long-term memory. This is because there is no strong reason to do so. Lack of knowledge of everyday objects, politics, science, health, etc., is commonplace and indicates that there are generally no practical everyday advantages to being able to recall such facts.

The implication here is that those who do have high levels of factual political knowledge are special in the sense that there is something about their lives that makes knowing such information important. Many chapters of this book have shown that higher levels of education (ability or perhaps also social background) are linked with greater factual knowledge, suggesting that familiarity with political facts reflects an occupation, career, or social network that makes such information useful.

The relationship between knowledge and memory is complex. Morris, Tweedy and Gruneberg (1985) showed that experts with a high factual knowledge of football were better able to remember the results of actual games mentioned to them just once. This positive knowledge-memory relationship did not exist when plausible simulated scores based on matches played in previous weeks were presented to participants in the experiment. Such research shows that knowledge in combination with motivations, such as interest, shape what is remembered. This raises the question: what is the causal relationship between interest in politics and factual knowledge?

In the Motivation-Ability-Opportunity (MAO) model used in this book, interest in politics (a key motivation variable) was assumed to be causally prior to having factual knowledge. However, in real life interest leads to knowledge, which spurs further interest, and more knowledge, and so on, in a dynamic way. Tobias (1994: 44) argued from a review of education research that 20% of the variance in interest is explained by prior knowledge and 80% is due to other factors. This means that interest in politics is not conterminous with prior knowledge, and using the former as an explanatory variable is justified.

However, current knowledge also has an influence on what is remembered and this can lead to bias and invalid conclusions (e.g. Owens, Bower and Black 1979). The implication here is that factual political knowledge has an advantage in making memory recall more effective, but has the disadvantage of increasing the likelihood of making biased inferences and choices that are based on prior beliefs and expectations. In short, adopting the view that high levels of factual political knowledge can only produce benefits is not correct. A society full of citizens with high levels of political knowledge could be just as problematic as current societies that are populated by so-called 'know-nothings' (Hyman and Sheatsley 1947; Bennett 1988, 1996).

## Knowledge and Representative Democracy

Almost everything about political knowledge is paradoxical, as the following five points discussed in this book demonstrate.

- Political knowledge may be objective and factually grounded on experts' consensus conclusion, or subjective and based on what many diverse people currently believe.
- Political knowledge may be the result of conscious deliberation or it may emerge from implicit skills such as evaluating others on the basis of little information.
- Political knowledge may make decisions better through objective deliberation or may make them worse because of motivated or biased reasoning.
- Political knowledge can be based on private research and deductive thinking or may be a product of society coming from second-hand testimony.
- Political knowledge may be useful for knowing why voting is not rational or for voting correctly having irrationally decided to vote.

The goal of this book has been to show (using survey data from the Czech Republic) that political knowledge is best viewed as being composed of distinct facets, and the definition of a competent citizen should not be solely determined by the ability to recall facts in a survey interview. This is because decision-making in the real world is rarely made solely on the basis of 'cold' facts, but involves 'hot cognitions' (emotion-laden facts) and many other unconscious and interpersonal skills. Moreover, citizen knowledge of facts from many different areas such as health, safety, economics, finance, and science show the same pattern: ignorance. In other words, citizens are not deliberately deciding to learn little about politics; they lack factual knowledge about many important topics.

Russell Hardin's (2009) key point in this respect is that for everyday life most factual knowledge from areas such as consumer products, investments, history, politics, and science is not especially useful (Chamorro-Premuzic et al. 2006; Burnett and McCubbins 2010). Consequently, most citizens are rational in not having much factual political knowledge. Perhaps the real puzzle then is that citizens know anything at all about politics other than what they learn by accident.

However, if the concept of political knowledge is expanded to cover unconscious mental processes, noncognitive skills, and social relationships, then the view of what constitutes a 'competent citizen' changes from the ideal put forward in normative democratic theory. It is hoped that this book facilitates future research into an expanded repertoire of citizen knowledge in systems of governance with indirect political representation.



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# Appendices

More detailed (or extended) appendices for the foregoing chapters are available at the website for this book.

<http://www.soc.cas.cz/en/publication/political-knowledge-czech-republic>

The extended appendices on this website contain more information about analyses discussed in this book but not reported in the print version of this study for reasons of brevity.

## Appendix for Chapter 3

The set of factual political knowledge questions examined in this book come from a set of slightly less than a dozen national surveys fielded in the Czech Republic over two decades between 1996 and 2013. Most of these surveys are post-election studies that form part of the Comparative Study of Electoral Systems (CSES) international research project.

A complete listing of CSES ‘political information’ questions is given later in this appendix, and these items facilitate comparative research. The selection criteria for the political knowledge questions examined in this chapter was (1) surveys that asked about party choices in elections, or key political events such as the Velvet Revolution (1989); and (2) the knowledge questions examined respondents’ level of political facts with open-ended items, or employed a simple quiz format.

Political knowledge questions fielded by Eurobarometer are not examined in this book. This is because these detailed analyses of these data would require a separate book dealing with how knowledge shapes attitudes to European integration. In general, comparative survey research programmes such as the European Social Survey (ESS) and the International Social Survey Programme (ISSP) do not ask political knowledge items because of the difficulty of making international comparisons. Nonetheless, Almond and Verba (1963: 57–58) in their seminal comparative study did include a battery of knowledge of party leaders and government ministers that was used for making comparative inferences.

### **Images of the World in the Year 2000 Survey, Czechoslovak Academy of Sciences, June 1967**

This survey was part of a comparative study in eleven countries that explored the attitudes of the ‘younger generation’ toward the future, i.e. the world in the second millennium. Most questions focussed on measuring respondents’ perceptions of likely future developments in (a) science and society and (b) international relations and war. Consequently, a battery of sixteen true or false quiz questions was asked about specific countries membership of the two main military alliances during the Cold War: the North Atlantic Treaty Organisation (NATO) and the Warsaw Treaty Countries.

Q30: I am going to read out a list of countries. Can you tell me for each one whether it belongs to NATO, to the Warsaw Treaty Organisation or to neither of these? Response options: (0) Don’t know, no answer, (1) NATO, (2) Warsaw Treaty, (3) Neither. Note that the correct answer to each knowledge item is indicated in square parentheses.

Q30a: Czechoslovakia [Warsaw Treaty]

Q30b: Denmark [NATO]

Q30c: Finland [Neither]

Q30d: France [NATO]  
Q30e: Federal Republic of Germany [NATO]  
Q30f: Italy [NATO]  
Q30g: Netherlands [NATO]  
Q30h: Norway [NATO]  
Q30i: Poland [Warsaw Treaty]  
Q30j: Soviet Union [Warsaw Treaty]  
Q30k: Spain [Neither]  
Q30l: Sweden [Neither]  
Q30m: Switzerland [Neither]  
Q30n: United Kingdom [NATO]  
Q30o: USA [NATO]  
Q30p: Yugoslavia [Neither]

#### **Czech National Election Study, STEM, June 9–19, 1996**

Three political knowledge items were asked in this post-election survey as part of the CSES module. All questions were open-ended where the interviewer recorded verbatim answers. Note that these written responses were coded as ‘correct’, ‘incorrect’ and ‘missing’ where the latter category probably includes those who replied ‘don’t know’, refused to answer or made no answer.

Q.56: Can you tell me how many percent of votes has a political party to gain in our country in elections in order to get into parliament? WRITE OUT. [Correct answer: 5%]

Q.57: Who was the last minister of transportation before the elections? WRITE OUT. [Correct answer: Vladimír Budinský, ODS, Oct. 11 1995 – July 4 1996]

Q.58: How many members has our parliament? WRITE OUT. [Correct answer: 200]

#### **Czech National Election Study, CVVM, July 24 – August 1, 2002**

Six political knowledge items were asked in this post-election survey where the first three items were open-ended and the final three were closed.

PI.26a-c: In June 2002 who was: (a) Chairman of the Senate? [Correct answer: Petr Pithart]; (b) Chairman of the Chamber of Deputies? [Correct answer: Václav Klaus]; (c) Prime Minister? [Correct answer: Miloš Zeman]. All verbatim responses recorded and later coded as correct or not.

PI.27a: Who elects the President of the Czech Republic? Is it elected by the Chamber of Deputies, the Senate, or the whole Parliament that is the Chamber of Deputies and the Senate together? Response options: (1) Chamber of Deputies, (2) Senate, (3) Parliament, Chamber of Deputies and the Senate [Correct], (9) Don’t know.

PI.27b: Who holds the highest constitutional office in the Czech Republic? Response options: (1) President [Correct], (2) Prime Minister, (3) President of the Chamber of Deputies, (9) Don’t know.

PI.27c: After the elections in 1998, the two political parties ČSSD and ODS made a deal. What was this agreement called? Response options: (1) the Saint Václav’s Agreement, (2) the Opposition Agreement [Correct], (3) the Toleration Decree, (9) Don’t know.

#### **CVVM, pre-election, survey, May 8–25, 2006**

Nine political knowledge items were asked. Three items for each level of governance, i.e. sub-national (Z.25–27), national (Z.22–24), and international (Z.25–27).

##### *Instructions read to respondents:*

For the following questions (Z.22 to Z.30) if you do not know the correct answer, or you are not sure, please feel free to select the response: ‘Don’t know, I am not sure’. This answer is worth more to us than if you guess the correct answer.

- Z.22: In what year did Czechoslovakia formally split into the Czech Republic and Slovakia? The response options were: (1) 1968, (2) 1989, (3) 1993 [Correct], (4) 1998, (9) Don't know
- Z.23: Are members to the Chamber of Deputies elected using a proportional or majoritarian electoral system? The response options were: (1) Proportional [Correct], (2) Majoritarian, (9) Don't know.
- Z.24: Václav Klaus is currently the President of the Czech Republic. How was he elected? The response options were: (1) Through a national election where all citizens could vote, (2) Following a vote in both the Chamber of Deputies and the Senate [Correct], (3) Political parties made an agreement among themselves and appointed him, (4) It is the Constitutional Court who chooses the President, (9) Don't know.
- Z.25: How are members of regional (kraje) assemblies selected? The response options were: (1) Political parties decide who can be members, (2) The government appoints all regional assembly members, (3) There are regional assembly elections [Correct], (4) Local councils select representatives to serve on regional assemblies, (9) Don't know.
- Z.26: Could you please tell me the name of the Hejtman in this region or Mayor (if the respondent lived in Prague)? Open response option as verbatim answers were recorded and coded later as either true or false.
- Z.27: Responsibility for public politics and policy is divided between the local level, the regional level and the central government. Which is primarily responsible for waste disposal? The response options were: (1) The municipality [Correct], (2) The region, (3) The national government, (4) It is a shared responsibility of all three institutions, (9) Don't know.
- Z.28: How many member states are there currently in the European Union? The response options were: (1) 12, (2) 15, (3) 25 [Correct], (4) 30, (9) Don't know.
- Z.29: Do the citizens of the European Union directly elect the President of the European Commission? The response options were: (1) Yes, (2) No [Correct], (9) Don't know.
- Z.30: Which of the following countries is a permanent member of the UN Security Council? The response options were: (1) Canada, (2) Japan, (3) Russia [Correct], (4) Italy, (9) Don't know.

### **Czech National Election Study, CVVM, June 9–21, 2006**

Ten political knowledge items were asked. Three/four items for each level of governance, i.e. sub-national (x3: Q.33, Q.35d, Q.35e), national (x4: Q.31a, Q.32, Q.35a, Q.35b), and international (x3: Q.34, Q.35c, Q.35f). The first question was not formally part of the battery of political knowledge, but may be considered a factual knowledge item.

Q.31a: Not every party has a chance to succeed in the polls and get to the Chamber of Deputies. How many percent must a party get to obtain a seat? The response options were: (1) Percentage (verbatim response – correct answer 5%), (7) Refused, (9) Don't know.

#### *Instructions read to respondents:*

For the following questions (Q.32 to Q.35) if you do not know the correct answer, or you are not sure, please feel free to select the response: 'Don't know, I am not sure'. This answer is worth more to us than if you guess the correct answer.

- Q.32: Are the deputies to the Chamber elected on a proportional representation or majority principle? The response options were: (1) Proportional [Correct], (2) Majoritarian, (7) Refused, (9) Don't know, I am not sure.
- Q.33: Could you please tell me the name of Hejtman of your region (or Mayor in the case of Prague)? The response options were: (1) Name (verbatim response coded as correct/incorrect by CVVM), (97) Refused, (99) Don't know, I am not sure.

Q.34: Do EU citizens elect the President of European Commission? The response options were: (1) Yes, (2) No [Correct], (7) Refused, (9) Don't know, I am not sure.

Q.35: Are the following statements true or false? The response options were: (1) True, (2) False, (7) Refused, (9) DK. All responses were subsequently coded as correct or incorrect.

- (a) The Czech Republic was formally established in 1989 [Incorrect]
- (b) The current president Václav Klaus was elected based on a vote of the Senate and the Chamber of Deputies [Correct]
- (c) At present, the EU has 25 member states [Correct in 2006]
- (d) Members of regional councils are chosen based on the results of the elections to the regional councils [Correct]
- (e) Regional councils are responsible for domestic waste [Incorrect]
- (f) Canada is a permanent member of the United Nation's Security Council [Incorrect]

### **ISSP, Role of Government Survey Module IV, SC&C, October–November, 2006**

Nine political knowledge items were asked. Three items for each level of governance, i.e. sub-national (C.6b, C.6g, C.6h), national (C.6a, C.6d, C.6e) and international (C.6c, C.6f, C.6i).

#### *Instructions read to respondents:*

C.6: For the following questions (C.6a to C.6d) if you do not know the correct answer, or you are not sure, please feel free to select the response: 'Don't know, I am not sure'. This answer is worth more to us than if you guess the correct answer.

C.6a: Are the deputies to the Chamber elected on a proportional representation or majority principle? The response options were: (1) Proportional [Correct], (2) Majoritarian, (8) Refused, (9) Don't know, I am not sure.

C.6b: Could you please tell me the name of Hejtman of your region (or Mayor in the case of Prague)? The response options were: (1) Name (verbatim response coded as correct/incorrect), (97) Don't know, am not sure, (98) Refused, no answer.

C.6c: Do EU citizens elect the President of European Commission? The response options were: (1) Yes, (2) No [Correct], (7) Refused, (9) Don't know, I am not sure.

C.6d: Are the following statements true or false? The response options were: (1) Correct, (2) Incorrect, (8) Don't know, I am not sure, (9) No answer. All responses were subsequently coded as correct or incorrect.

- (a) The Czech Republic was formally established in 1989 [Incorrect]
- (b) The current president Václav Klaus was elected based on a vote of the Senate and the Chamber of Deputies [Correct]
- (c) At present, the EU has 25 member states [Correct]
- (d) Members of regional councils are chosen based on the results of the elections to the regional councils [Correct]
- (e) Regional councils are responsible for domestic waste [Incorrect]
- (f) Canada is a permanent member of the United Nation's Security Council [Incorrect]

### **European Election Survey, Czech wave, FOCUS, June 7–27, 2009**

Q92–Q98. Now, I have some questions about the European Union and the Czech Republic. I will read you a few statements. For each one, please tell me whether you think the statement is true or false. If you do not know please tell me to skip to the next question. The response options were: (1) True, (2) False, (7) Refused to answer, (8) Do not know. Note that the statements were presented in a random order to each respondent.

Q92: Switzerland is a member of the EU [False]

Q93: EU consists of 25 member countries [False, n=27]

- Q94: Each EU country chooses the same number of representatives to the European Parliament [False]
- Q95: Every six months, a different Member State becomes president of the Council of the European Union [True]
- Q96: The name of the Minister of Education, Youth and Sports of the Czech Republic is Miroslava Kopicová [True]
- Q97: Individuals must be 25 or older to stand as candidates for the Chamber of Deputies [False]
- Q98: In the Chamber of Deputies of the Parliament of the Czech Republic there are 300 deputies [False]

### **Czech National Election Study, CVVM, July 1–31, 2010**

Ten political knowledge questions were asked. Three or four items for each level of governance, i.e. sub-national (x3: Q.33, Q.35d, Q.35e), national (x4: Q.31a, Q.32, Q.35a, Q.35b), and international (x3: Q.34, Q.35c, Q.35f). Within the comparative study of political knowledge, using CSES data, there are relatively high proportions of respondents who answer ‘don’t know.’ This may be due to the Czech Question wording explicitly, as shown below, encouraging respondents not to guess the answers if they were unsure.

Q.31a: Not every party has a chance to succeed in the polls and get to the Chamber of Deputies. How many percent must a party get to obtain a seat? The response options were: (1) Percentage (verbatim response – correct answer 5%), (7) Refused, (9) Don’t know.

#### *Instructions read to respondents:*

For the following questions (Q.32 to Q.35) if you do not know the correct answer, or you are not sure, please feel free to select the response: ‘Don’t know, I am not sure’. This answer is worth more to us than if you guess the correct answer.

- Q.32: Are the deputies to the Chamber elected on a proportional representation or majority principle? The response options were: (1) Proportional [Correct], (2) Majoritarian, (7) Refused, (9) Don’t know, I am not sure.
- Q.33: Could you please tell me the name of Hejtman of your region (or Mayor in the case of Prague)? The response options were: (1) Name (verbatim response coded as correct/incorrect by CVVM), (97) Refused, (99) Don’t know, I am not sure.
- Q.34: Do EU citizens elect the President of European Commission? The response options were: (1) Yes, (2) No [Correct], (7) Refused, (9) Don’t know, I am not sure.
- Q.35: Are the following statements true or false? The response options were: (1) True, (2) False, (7) Refused, (9) Don’t know, I am not sure. All responses were subsequently coded as correct or incorrect.
- (a) The Czech Republic was formally established in 1989 [Incorrect]
  - (b) The current president Václav Klaus was elected based on a vote of the Senate and the Chamber of Deputies [Correct]
  - (c) At present, the EU has 25 member states [Correct]
  - (d) Members of regional councils are chosen based on the results of the elections to the regional councils [Correct]
  - (e) Regional councils are responsible for domestic waste [Incorrect]
  - (f) Canada is a permanent member of the United Nation’s Security Council [Incorrect]

### **CVVM, November 5–12, 2012 (A special survey of political knowledge)**

Eight political knowledge questions were asked. Two or three items for each level of governance, i.e. sub-national (Q.35d, Q.35e), national (Q.32, Q.35a, Q.35b), and international (Q.34, Q.35c, Q.35f).

*Instructions read to respondents:*

For the following questions (Q.32 to Q.35) if you please do not know the correct answer, or you are not sure, please feel free to select the response: 'Don't know, I am not sure'. This answer is worth more to us than if you guess the correct answer.

- Q.32: Are the deputies to the Chamber elected on a proportional representation or majority principle? The response options were: (1) Proportional [Correct], (2) Majoritarian, (7) Refused, (9) Don't know, I am not sure.
- Q.34: Do EU citizens elect the President of European Commission? The response options were: (1) Yes, (2) No [Correct], (7) Refused, (9) Don't know, I am not sure.
- Q.35: Are the following statements true or false? The response options were: (1) True, (2) False, (7) Refused, (9) Don't know, I am not sure. All responses were subsequently coded as correct or incorrect.
- (a) The Czech Republic was formally established in 1989 [Incorrect]
  - (b) The current president Václav Klaus was elected based on a vote of the Senate and the Chamber of Deputies [Correct]
  - (c) At present, the EU has 25 member states [Incorrect, n=27]
  - (d) Members of regional councils are chosen based on the results of the elections to the regional councils [Correct]
  - (e) Regional councils are responsible for domestic waste [Incorrect]
  - (f) Canada is a permanent member of the United Nation's Security Council [Incorrect]

**Czech National Election Study, CVVM, October 28 – November 11, 2013**

Ten political knowledge questions were asked. Three/four items for each level of governance, i.e. sub-national (x2: Q.35d, Q.35e), national (x4: Q.32, Q.35a, Q.35b, Q.20a–c), and international (x4: Q.34, Q.35c, Q.35f, Q.20d). The final four questions (Q.20a–d) are the CSES Module 4 questions. Within the comparative study of political knowledge using CSES data there are relatively high proportions of respondents who answer 'don't know.' This may be due to the Czech Question wording explicitly, as shown below, encouraging respondents not to guess the answers if they were unsure.

*Instructions read to respondents:*

For the following questions (Q.32 to Q.35) if you please do not know the correct answer or you are not sure, please feel free to select the response: 'Don't know, I am not sure'. This answer is worth more to us than if you guess the correct answer.

*OLD CSES ITEMS (CZECH WAVES 2006, 2010 & 2013):*

- Q.32: Are the deputies to the Chamber elected on a proportional representation or majority principle? The response options were: (1) Proportional [Correct], (2) Majoritarian, (7) Refused, (9) Don't know, I am not sure.
- Q.34: Do EU citizens elect the President of European Commission? The response options were: (1) Yes, (2) No [Correct], (7) Refused, (9) Don't know, I am not sure.
- Q.35: Are the following statements true or false? The response options were: (1) True, (2) False, (7) Refused, (9) Don't know, I am not sure. All responses were subsequently coded as correct or incorrect.
- (a) The Czech Republic was formally established in 1989 [Incorrect]
  - (c) At present, the EU has 25 member states [Correct in 2006 and thereafter incorrect]
  - (d) Members of regional councils are chosen based on the results of the elections to the regional councils [Correct]
  - (f) Canada is a permanent member of the United Nation's Security Council [Incorrect]

*NEW CSES ITEMS (CZECH WAVES, 2013):*

Q20a: Which of these persons was the Finance Minister before the recent election?

Response options: (1) Jiří Rusnok, (2) Martin Pecina, (3) Jan Fischer [Correct], (4) Jan Kohout, (7) Refused to answer, (8) Don't know.

Q20b: What was the current unemployment rate in the Czech Republic as of October 2013? Response options: (1) 5.5%, (2) 7.5% [Correct], (3) 9.5%, (4) 11.5%, (7), Refused to answer, (8) Don't know.

Q20c: Which party came in second in seats in the lower chamber elections? Response options: (1) ČSSD, (2) KSČM, (3) ANO [Correct], (4) TOP 09, (7) Refused to answer, (8) Don't know.

Q20d: Who is the current Secretary General of the United Nations? Response options: (1) Kofi Annan, (2) Kurt Waldheim, (3) Ban Ki-moon [Correct], (4) Boutros Boutros-Ghali, (7) Refused to answer, (8) Don't know.

**AISA Post-Election Survey for First Democratic Election, November 1990**

These data and questionnaire are available from the German Social Data Archive (GESIS). This survey is archived as ZA 2561. Some of the translated questions have been revised for style to make them more understandable in English.

*Introduction to the interview:*

Dear sir or madam, the survey into which you have been included on the basis of random selection is devoted to some crucial problems of our political, economic, and social development. The solution of these problems must respect also the opinions and standpoints of the entire public. This is precisely the reason why the Association for Independent Social Analysis (AISA) is undertaking this survey, while guaranteeing the absolute anonymity of your answers. We believe that the results of the survey will contribute to the positive development of our country. We are aware of the demanding character of the interview, and would therefore like to ask you to devote to it your attention and some of your free time. Do not ponder your answers; we are interested in your own personal views.

**Section A: Political attitudes**

Allow me first to ask you several questions concerning the political situation and political development in this country.

*Satisfaction with politics:*

Q.5: When you consider the overall political development in our country in the past year, would you say that you are? Response options: (1) highly dissatisfied, (2) rather unsatisfied, (3) rather satisfied, (4) highly satisfied, (9) No answer.

*Political expectations:*

Q.6: Which of the following statements best expresses your expectations as regards our future political developments? Please choose only one. Response options: (1) Different people will take turns in holding power, but little will change in other respects; (2) We will have to pass through a complicated stage of unrest and political reversals before a lasting democratic system is formed in this country; (3) Although we will take a long time to learn democracy, we will make systematic and visible progress toward having a permanent democracy; (4) A democratic political system will be formed and stabilized in our country relatively quickly without serious problems, (9) No answer.

*Political efficacy (external):*

Q.29: To what extent do you feel you personally can have a say in matters which are the subject of major decisions by the government, parliament, etc.? Response options: (1) not at all, (2) to a small extent, (3) to some extent only, (4) to a considerable extent, (9) no answer.

### ***Section B: Views of the functioning of the state and political system***

Now, I would like to ask you for some answers regarding your idea of the functioning of your state and political system. Though the following questions are somewhat detached from daily life, it is nevertheless important to know how they are viewed by [ordinary] people.

#### *How should the constitution be changed?*

Q.35: Some people say that a document of such importance as the Constitution should be decided upon by all citizens in a referendum. Others believe that this is a matter for experts and its competent judgement should be entrusted to the federal and national parliaments. Which of these views is closest to your own? Response options: (1) Have a referendum, (2) Entrust to parliaments, (9) No answer.

#### *Constitutional priority?*

Q.36: Two opposite standpoints appear in connection with the drafting of the [federal] Constitution. Which of them do you agree with most? Response options: (1) Constitutions for the two republics [Czech and Slovak], which would best express the interests of the two nations, should be drafted prior to creating a [federal] constitution for the whole state where the latter would only include things that acceptable to both republics; (2) The [federal] constitution for the state should be created first, and the national constitutions would only deal with the specificities of the [Czech and Slovak] republics, (9) No answer.

#### *Right for independence in the constitution?*

Q.52: Do you think that the right for independence for each of the republics should be explicitly laid down in the constitution? Response options: (1) Yes, (2) No, (9) No answer.

#### *Who decides dissolution of the federation?*

Q.53: Who, in your opinion, can decide upon the withdrawal of one of the republics from the federation? Response options: (1) Members of parliament elected in free elections, (2) Citizens in a referendum, (9) No answer.

#### *Dissolution decision?*

Q.54: Do you agree with the view that a decision taken by any one of the republics alone should be sufficient for its becoming independent, or should such a decision be approved by both republics? Response options: (1) A decision by one republic alone is sufficient, (2) Both republics must approve, (9) No answer.

### ***Section C: Nationality problems; relations between the Czech and Slovak republics***

#### *Dissolution of Czechoslovakia?*

Q.77: If you consider all the circumstances, are you in favour of two separate states being formed instead of the present single one? Response options: (1) Yes, (2) rather so, (3) Rather not, (4) No, (9) No answer.

#### *Recall party choice in the first democratic elections of June 1990*

Q.23: Can you please tell us to whom you gave your vote in the June 1990 elections to the Federal Parliament? The response options were the following.

- 1 Civic Forum (OF)
- 2 Public Against Violence (VPN)
- 3 Communist Party (KSČ)
- 4 Christian Democratic Movement (KDH)
- 5 Christian Democratic Party (KDU)
- 6 Czechoslovak People's Party (ČSL)

- 7 Slovak National Party (SNS)
- 8 Movement for Autonomous Democracy – Association for Moravia and Silesia (HSD-SMS)
- 9 Democratic Party (DS)
- 10 Green Party (SZ)
- 11 Social Democratic Party (SD)
- 12 Coexistence (a coalition of national minorities, ESWMK)
- 13 Hungarian Christian Democratic Movement (MKDH)
- 14 Alliance of Peasants and Countryside (SZV)
- 18 Electoral list of interest associations (VSZS)
- 19 Friends of Beer Party (SPP)
- 20 Freedom Party (SS)
- 21 Czechoslovak Socialist Party (CSS)
- 22 Movement for Civic Freedom (HOS)
- 23 Freedom Block (SB)
- 24 Club of Engaged Non-Party Members (KAN)
- 25 Romani (Rómóvia)
- 26 Movement of Czechoslovakian Understanding (HČSP)
- 27 Association for the Republic – Republican Party of Czechoslovakia (SPR-RSČ)
- 28 Other party
- 29 Personalities
- 97 I will not vote
- 98 Don't know
- 99 No answer

For more details about the parties that contested the Czechoslovak elections of 1990, and their success among the Czech and Slovak electorates, see Rose and Munro (2009: 87-97).

**Party Systems and Electoral Alignments in East Central Europe Survey, Autumn 1992 module, Czech wave (n=815)**

Q.1: To what extent would you say you are interested in politics? Response options: (1) A great deal, (2) To some extent, (3) Not much, (4) Not at all, (9) Don't know / no answer.

Q.2: On the whole, are you very satisfied, fairly satisfied, not very satisfied, or not at all satisfied with the way democracy works in Czechoslovakia? Response options: (1) Very satisfied, (2) Fairly satisfied, (3) Not very satisfied, (4) Not satisfied at all, (9) Don't know / no answer.

Q.3: When you have a firm/clear opinion on a political question, how often does it happen that you try to convince your friends, relatives or fellow workers about your opinion? Response options: (1) Frequently, (2) Occasionally (sometimes, from time to time, but not rarely), (3) Never, (9) Don't know / no answer.

Q.4: When you get together with your friends, do you discuss political matters frequently, occasionally or never? Response options: (1) frequently, (2) occasionally or sometimes, etc., but not rarely, (3) Never, (9) Don't know / no answer.

Q.5: Did you participate in the Czechoslovak elections of June 1992? Response options: (1) Yes, (2) No, (3) Respondent was not eligible at that time, (9) Don't know / no answer.

Q.12: To the best of your knowledge, which parties are the government parties today?

Q.13: And which are the Czechoslovak parliamentary opposition parties?

Q.15: How much attention do you feel the Czechoslovak national government pays to what the people think when it decides what to do? Response options: (1) A good deal, (2) Some attention, (3) Not much, or almost nothing, (9) Don't know / no answer.

Q.16: Please tell me how much you agree or disagree with the following statements. Response options: (1) Definitely agree, (2) Rather agree, (3) Rather disagree, and (4) Definitely disagree, (9) Don't know / no answer.

a. In elections in Czechoslovakia voters have a real choice.

b. Generally speaking, those we elect to parliament lose touch with the people pretty quickly.

j. People like me have no say in what government does.

l. Parties are interested only in people's votes not in their opinions.

Q.17L: I am going to read some political goals. Please, tell me after each, which party or parties in Czechoslovakia you think really wish to reach these goals. You can name a maximum of three parties in each case. Then, I am going to ask you which party you think is the least likely to pursue that goal. Please, consider every party operating in our country, not only those which we talked about earlier.

T. Achieve a rapid separation of the Czech and Slovak Republics.

Q.18: Now, I would like to ask you how important each of the above political goals are for you personally. Please answer when one of them is very important for you, answer with a '5', and if it is not important for you at all, answer with '1', and so on. Note the statements were the same as those used in the previous question.

Q.20: In political matters, people sometimes talk of left, centre left, centre right, and right. On this scale (SHOW CARD) '1' means left, and '7' means right. Can you place yourself on this scale? If yes, where?

Left							Right	DK/NA
1	2	3	4	5	6	7	9	

Q.21: Sometimes people also talk of conservative and liberal. If '1' on the above card means liberal and '7' means conservative, where would you place yourself on this scale? SHOW CARD.

Liberal							Conservative	DK/NA
1	2	3	4	5	6	7	9	

**Table A3.1: Inventory of surveys with political knowledge questions fielded in the Czech Republic, 1967–2015**

<i>No.</i>	<i>Survey name</i>	<i>Date</i>	<i>N</i>	<i>Number of items</i>	<i>Notes</i>
1	Images of the World in the Year 2000 Survey	June 1–30, 1967	1167	16	Study of young adults, 15–40 yrs.
2	Independent Survey of Public of Public Opinion (Zdeněk Strmiska and Jiřina Šiklová)	1985–1986	382	15	Non-representative sample
3	Association for Independent Social Analysis (AISA)	Nov. 1990	2548	5	Post-election survey
4	Party Systems and Electoral Alignments in East Central Europe Surveys	Autumn 1992, Spring & Autumn 1993–1995	815, ≈1000	4–8	International survey
5	Czech National Election Study (CNES) fielded by STEM	June 9–19, 1996	1229	3	Post-election survey
6	Civic Education Study (CIVED)	1999	3607	40	Study of high school students
7	Czech National Election Study (CNES) fielded by CVVM	July 21–August 1, 2002	944	6	Post-election survey
8	Eurobarometer	Bi-annually since 2004	≈1000	3	International survey
9	Naše společnost (Our Society) Centre for Public Opinion Research (CVVM)	May 8–25, 2006	2005	9	Pre-election survey
10	Czech National Election Study (CNES) fielded by CVVM	June 9–21, 2006	2002	10	Post-election survey
11	ISSP Role of Government module	Oct. 19 – Nov. 27, 2006	1201	9	International survey
12	Naše společnost (Our Society) Centre for Public Opinion Research (CVVM)	May 12–19, 2008	1066	7	Political attitudes survey for events of 1968 and 1989
13	Naše společnost (Our Society) Centre for Public Opinion Research (CVVM)	July 1–31, 2008	551	6	Panel survey of media use and political attitudes
14	European Election Study (EES)	June 7–27, 2009	1020	7	International post-election survey
15	International Civic and Citizenship Study (ICCS)	2009	4630	40	Study of high school students

<i>No.</i>	<i>Survey name</i>	<i>Date</i>	<i>N</i>	<i>Number of items</i>	<i>Notes</i>
16	Czech National Election Study (CNES) fielded by CVVM	July 1–31, 2010	1857	10	Post-election survey
17	Náše společnost (Our Society) Centre for Public Opinion Research (CVVM)	November 5–12, 2012	1267	8	Study of political knowledge
18	Czech Presidential Election Study (CPES) fielded by CVVM	February 2–13, 2013	1060	6	Post-election survey
19	Czech National Election Study (CNES) fielded by CVVM	Oct. 28 – Nov. 11, 2013	1653	10	Post-election survey
20	European Election Study (EES)	May 30 – June 23, 2014	1177	6	International post-election survey
21	CHPS pre-test survey fielded by CVVM*	November 2014	1085	19	Omnibus survey, 5 fact items and 14 visual
22	Czech Household Panel Survey (CHPS), wave 1 fielded by Median and Stem-Mark*	July 7 – November 30 2015	7172	10	Household survey

Source: author

Note that this is a non-exhaustive list of surveys that have included factual political knowledge (quiz) questions in Czechoslovakia / Czech Republics over the last five decades. This listing is an underestimate of the census of knowledge questions asked over the decades. Additional types of knowledge questions relating to science, environment and consumer affairs have been asked by Eurobarometer and other domestic and international organisations. \* These data are not examined in this book as they are the subject of additional research. CHPS wave 1 contains political knowledge items (factual and visual) for adults (18 years or more), youths (15–17 years), and children (10–14 years).

## Appendix for Chapter 5

### Dependent variable: national knowledge of military alliance membership

Q30: I am going to read out a list of countries. Can you tell me for each one whether it belongs to NATO, to the Warsaw Treaty, or to neither of these? Response options: (1) NATO, (2) Warsaw Treaty, (3) Neither, (9) Don't know (DK), no answer (NA), Note that the correct answer to each knowledge item plus year of entrance to NATO or the Warsaw Treaty Organisation is indicated below in square parentheses.

Q30a Czechoslovakia [Warsaw Treaty]; Q30b Denmark [NATO, 1949]; Q30c Finland [Neither]; Q30d France [NATO, 1949]; Q30e Federal Republic of Germany [NATO, 1955]; Q30f Italy [NATO, 1949]; Q30g Netherlands [NATO, 1949]; Q30h Norway [NATO, 1949]; Q30i Poland [Warsaw Treaty]; Q30j Soviet Union [Warsaw Treaty]; Q30k Spain [Neither]; Q30l Sweden [Neither]; Q30m Switzerland [Neither]; Q30n United Kingdom [NATO, 1949]; Q30o USA [NATO, 1949]; Q30p Yugoslavia [Neither].

These 16 items were recoded to correct (1). All other non-correct responses were coded as zero. These dichotomous items were then used to estimate a two-part logistic item response theory model (2PL IRT) for each of the 8 countries examined. The latent knowledge scores (or thetas) from this model were subsequently used as the dependent variable in the regression models reported in this and other chapters.

### **Interest in politics (scale)**

This scale was constructed based on answers to the following three variables / questions:

- V3 / Q1: How much would you say that you think about the future of your country in the year 2000? Response options: (1) Very much, (2) Some, (3) A little, (4) Not at all, (9) DK/NA
- V4 / Q2: How much would you say that you think about the future of the whole world in the year 2000? Response options: (1) Very much, (2) Some, (3) A little, (4) Not at all, (9) DK/NA
- V6 / Q4: How often would you say that you talk with somebody about the future of your country or the world? Response options: (1) Never, (2) Less than once a month, (3) Once a month, (4) Once a week, (5) More often, (9) DK/NA

The first two variables were reversed and rescaled to 0–1 range so that 0 represents not at all (missing values were also included into this category) and 1 represents very much. The third variable (V6) was also rescaled to 0–1 range when 0 means never (missing values were also included into this category) and 1 means more often than once a week. A summated rating scale was created from these three items (Cronbach's alpha=.76, computed using data from 8 countries). This scale was then adjusted to the standard 0–1 range, where zero (0) implies the lowest interest in politics and '1' the highest interest in politics.

### **Policy dissatisfaction (scale)**

This scale was constructed based on answers to the following five questions that were recoded as follows.

- V154 / Q33: Do the older generation promote domestic progress and development or do they hold back progress and development? Response options: (1) Promote progress, (2) Do not promote progress, (9) DK/NA
- V156 / Q35: Will the younger generation promote domestic progress and development more than the older generation? Response options: (1) More, (2) About the same, (3) They will be worse than the older generation of today, (9) DK/NA
- V157 / Q36: Who do you think has the most realistic view of the world today? Response options: (1) Older generation, (2) Younger generation, (9) DK/NA
- V159 / Q38a: Do you think that you personally have too little, adequate, or too much influence on public affairs in your country? Response options: (1) Too little, (2) Adequate, (3) too much influence, (9) DK/NA [reverse coded]
- V160 / Q38b: Do you think that the younger generation in general has too little, enough, or too much influence on public affairs in your country? Response options: (1) Too little, (2) Enough, (3) Too much influence, (9) DK/NA [reverse coded]

All of these variables / questions were rescaled to have a 0–1 range. The coding of the last two variables (V159 and V160) was also reversed so that code '1' represents the opinion that the respondent has too little influence on public affairs (V159); the younger generation has too little influence on public affairs (V160) whereas code zero (0) represents the opinion that respondent has too much influence on public affairs (V159); and the younger generation has too much influence on public affairs (V160). Missing values were coded as zero (0), i.e. implying policy satisfaction. A summated

rating scale was created from these five items (Cronbach's  $\alpha=.54$ , computed using data from 8 countries). This scale was then adjusted to the standard 0–1 range where 0 implies policy satisfaction and 1 implies policy dissatisfaction.

### **Dogmatism scale (Rokeach)**

The Rokeach dogmatism scale attempted to measure 'pure' authoritarianism, regardless of whether respondents had a left or right-wing orientation. Specifically, this dogmatism scale aimed to measure 'closed mindedness' independently of ideology (Rokeach 1948, 1956, 1960 and 1973). Nonetheless, dogmatism does appear to be linked with political conservatism (Smithers and Lobley 1978). Later, research by Tetlock (1984) found that right-wing beliefs are associated with less sophisticated political views (i.e. cognitive complexity) than their left-wing counterparts. It seems that individuals with moderate liberal attitudes had the most sophisticated cognitions. In the Images of the World in the Year 2000 survey the Rokeach dogmatism scale was constructed using the following fourteen items.

Question wording: Below are a number of statements about different things. We want to know for each statement if you agree or disagree with the statement or if you feel uncertain about it. Response options: (1) Agree, (2) Disagree, (9) DK/NA.

- V130 / Q31a: In the history of mankind there have probably been just a handful of really great thinkers.
- V131 / Q31b: It is only when a person devotes himself to an ideal or a cause that life becomes meaningful.
- V132 / Q31c: Of all the different philosophies which exist in the world there is probably only one which is correct.
- V133 / Q31d: A person who gets enthusiastic about too many causes is likely to be a pretty 'wishy-washy' sort of person.
- V134 / Q31e: To compromise with our opponents is dangerous because it usually leads to the betrayal of our own side.
- V135 / Q31f: The worst crime a person could commit is to attack publicly the people who believe in the same thing he does.
- V136 / Q31g: A group which tolerates too many differences of opinion among its own members cannot exist for long.
- V137 / Q31h: In this complicated world the only way we can know what is going on is to rely on trusted leaders or experts.
- V138 / Q31i: It is often desirable to reserve judgement about what is going on until one has had a chance to hear the opinions of those one respects.
- V139 / Q31j: In the long run the best way to live is to pick friends and associates whose tastes and beliefs are the same as one's own.
- V142 / q31m: The present is all too often full of unhappiness. It is only the future that counts.
- V143 / q31n: It is by returning to our glorious and forgotten past that real social progress can be achieved.
- V144 / q31o: To achieve the happiness of mankind in the future it is sometimes necessary to put up with injustices in the present.
- V145 / q31p: If a man is to accomplish his mission in life it is sometimes necessary to gamble 'all or nothing at all'.

All of these items were rescaled to 0–1 range where agreement with each of these statements was coded as '1' and disagreement was coded as zero (0). The uncertain (2) response option and missing values were coded as 0.5. A summated rating scale was created from these fourteen items (Cronbach's  $\alpha=.72$ , computed with data from 8 countries). This scale was then adjusted to the standard 0–1 range, where zero (0) implies not being dogmatic (i.e. disagreeing with all fourteen statements) and '1' implies being dogmatic (i.e. agreeing with all fourteen statements).

### **Interpersonal trust – attitudinal (scale)**

This scale was constructed based on answers to the following three items. Question wording: What do you think will be the situation in your country by the year 2000? Response options: (1) More, (2) about as now, (3) less, (9) DK/NA.

- V30 / Q13g: Do you think that people will be more kind or less kind to each other than they are today?
- V33 / Q13j: Do you think that people will be more attached or less attached to their families than they are today?
- V34 / Q13k: Do you think that there will be more divorce or less divorce than there is today?

Response options: (1) more, (2) about as now, (3) less and codes for missing values. These three variables were rescaled to 0–1 range so that response options more kind/more attached were coded as 1 and less kind/less attached were coded as zero (0). Moreover, the scale of the third variable (V34) was also reversed: there will be more divorce by the year 2000 was coded as zero (0), and there will be less divorce was coded as '1'. Missing values were coded as 0. A summated rating scale was created from these three standardized items (Cronbach's  $\alpha=.49$ ; computed from data for 7 countries – the items for this scale were not asked in Britain). This scale was then adjusted to 0–1 range where zero (0) implies attitudes associated with low level of trust whereas 1 implies attitudes associated with high level of trust.

### **Interpersonal trust – structural (scale)**

This scale was constructed based on answers to the following three items.

- V170 / Q47: How many people were there in the household of the family where you grew up?
- V173 / Q50: Were you the only child or did you have older or younger brothers and sisters?
- V179 / Q56: How many people are there in your present household?

All these variables were rescaled to 0–1 range. Variables V170 and V179 are numeric and their original values ranged up to nine (the numeric code 9 represents nine or more people in the household). With variable V173, being the only child was coded as zero (0) and all other responses were coded as '1'. A summated rating scale was created from these three standardized items (Cronbach's  $\alpha=.54$ ; computed using data from 8 countries). This scale was then adjusted to 0–1 range where zero (0) implies a low level of structural interpersonal trust, whereas '1' implies a high level.

### **Trust in the country (scale)**

This scale was constructed based on answers to the following four items. Response options: '1' (i.e. the worst possible present/past/future) to '9' (i.e. the best possible present /past /future).

- V16 / Q11a: Where do you feel that your country is standing at the present time?
- V17 / Q11b: Where would you say it was standing five years ago?
- V18 / Q11c: Where do you think it will be standing five years from now?
- V19 / Q11d: Where do you think it will be standing in the year 2000?

These four items were rescaled to 0–1 range so that 0 represents the worst possible state and 1 represents the best possible state. Missing values were coded as 0. A summated rating scale was created from these four standardized items (Cronbach's  $\alpha=.77$ ; computed using data from 8 countries). This scale was then adjusted to the

standard 0–1 range where 0 implies low level of trust in the country and 1 implies high level of trust in the country.

### **Trust in current national leadership (scale)**

This scale was constructed based on answers to the following five items:

- V153 / Q32: ‘When you think of the older generation (people older than 50 years) in your country, do you find that they cooperate well with people in other countries?’ (1) cooperate well together, (2) do not cooperate well
- V154 / Q33: ‘Do the older generation promote domestic progress and development or do they hold back progress and development?’ (1) promote progress, (2) do not promote progress [reverse coded]
- V155 / Q34: ‘When the younger generation grow older, do you think, they will cooperate better, about the same, or worse with people in other countries than the older generation?’ (1) better, (2) about the same, (3) worse
- V156 / Q35: ‘The younger generation will promote domestic progress more, about as much or less than the older generation?’ (1) more, (2) about as much, (3) less [reverse coded]
- V157 / Q36: ‘Who do you think has the most realistic view of the world today, the younger generation or the older generation?’ (1) younger generation, (2) older generation [reverse coded]

These items were recoded to standard 0–1 range. The recoding was performed so that the new code ‘1’ would represent the expressed trust in the older generation of national leaders and code zero (0) would represent the opposite condition. Therefore, coding of the following three variables had to be reversed:

- V154 / Q33: (older generation promotes progress coded as ‘1’ and do not promote progress coded as zero (0))
- V156 / Q35: (the younger generation promotes progress about as much or less than older generation coded as ‘1’; the younger generation promoting progress more than older generation coded as zero (0))
- V157 / Q36: (older generation having more realistic view coded as ‘1’ and younger generation having more realistic view coded as zero (0))

Missing values of all items were recoded as zero (0). A summated rating scale was created from these five standardized items (Cronbach’s  $\alpha=0.54$ ; computed using data from 8 countries). This scale was then adjusted to the standard 0–1 range where 0 implies low level of trust in current national leadership and 1 implies high level of trust in the current national leadership.

### **Member of a political group**

Question wording: ‘Are you a member of a political organization?’ Response options: (1) no, (2) yes, passive member, (3) yes, active member and codes for missing values. The variable was recoded to 0–1 range so that respondents answering negatively (and missing values) have code zero (0), passive members have code 0.5 and active members are coded as ‘1’.

### **Education**

Question wording: ‘Which is the highest school you have completed?’ Response options: (1) primary, (2) secondary, (3) vocational, (4) grammar (others), (5) university degree and codes for missing values. Due to the differences in the national education systems, this variable was recoded to distinguish only between three education levels: primary or less (including missing values), secondary (secondary, vocational and grammar) and tertiary. As usual, the variable was rescaled to 0–1 range (i.e. 0 - primary or less, 0.5 - secondary, (1) tertiary). The education variable is not available for Britain.

## **Age**

Question wording: 'What is your age?' Response options: (1) 15–17 years, (2) 18–20 years, (3) 21–23 years, (4) 24–26 years, (5) 27–29 years, (6) 30–32 years, (7) 33–35 years, (8) 36–38 years, (9) 39–40 years. The variable was rescaled to 0–1 range so that 0 represents being between 15 and 17 years old and 1 represents being 39 or 40 years old. Missing values were coded as 0 (this was only the case of 9 respondents in the whole merged dataset). The age variable is not available for the Netherlands.

## **Sex**

The sex of respondent was filled in by the interviewers. Originally, males were coded as '1' and females were coded as '2'. After the standardization to 0–1 coding, females are represented by code '1' and men are represented by code zero (0). There were no missing values. The sex variable is not available in the dataset for the Netherlands.

## **Level of religious belief**

Question wording: 'As to religion, would you call yourself a believer? Do you practice religion?' Response options: (1) believe and practice, (2) believe, not practice, (3) practice, not believe, (4) neither believe, nor practice and codes for missing values. The variable was rescaled to standard 0–1 range based on the following coding scheme: 0 – neither believe, nor practice (and missing values); 0.33 practice, not believe; 0.66 believe, not practice; and 1.00 believe and practice. The level of religious belief is not available in the Netherlands and West Germany (FRG).

## **Socio-economic status (SES)**

Question wording: 'What is your present occupation (position)?' Response options: (1) student, apprentice; (2) worker, unskilled; (3) worker, skilled; (4) lower white collar; (5) higher white collar; (6) executive, manager, engineer, professional; (7) independent, self-employed; (8) housewife, domestic work; (9) unemployed, retired. For the purpose of regression modelling, two dichotomized variables (worker and student) were created from this socio-economic status variable as follows.

### **Worker**

Unskilled and skilled workers (coded as '1') vs. everybody else (coded as zero)

### **Student**

Students or apprentices (coded as '1') vs. everybody else (coded as zero)

## **Appendix for Chapter 6**

### **Implicit Knowledge Scale**

Question wording: Now, I would like you to examine on CARD X some photographs that are grouped into 10 pairs labelled A and B. Please imagine for a moment that these are pairs of candidates competing against each other in an election. Although, you have never seen these candidates before and know nothing about them please look at the first pair of photographs for a moment. Then please indicate which candidate you consider to be the most COMPETENT. This is not a test of skill or knowledge but an examination of your evaluation of candidate photos. Please answer as honestly and as quickly you can. Is candidate in photo 1A or 1B the most COMPETENT? Now, please turn your attention to the next pair of photographs and indicate once again which candidate you consider to be most COMPETENT?

<i>Item</i>	<i>Candidate Pairs</i>	<i>Face in <b>Photo A</b> is most competent</i>	<i>Face in <b>Photo B</b> is most competent</i>	<i>DK/NA</i>
1	Candidate Pair: 1AB	1	2	9
2	Candidate Pair: 2AB	1	2	9
3	Candidate Pair: 3AB	1	2	9
4	Candidate Pair: 4AB	1	2	9
5	Candidate Pair: 5AB	1	2	9
6	Candidate Pair: 6AB	1	2	9
7	Candidate Pair: 7AB	1	2	9
8	Candidate Pair: 8AB	1	2	9
9	Candidate Pair: 9AB	1	2	9
10	Candidate Pair: 10AB	1	2	9

CVVM Survey, November 5–12, 2012, n= 1276/1203

Note that the implicit knowledge scale was constructed by counting the number of times the respondent correctly selected the candidate who won most votes in their constituency in the Irish General Election of February 25, 2011. Some respondents (n=64) were excluded from analysis because they refused to answer any of these candidate pair comparison items.

## Appendix for Chapter 7

### Czech National Election Studies, 1996–2013

The following variables were used as independent variables in regression modelling of factual political knowledge based on five Czech National Election Studies (i.e. 1996, 2002, 2006, 2010 and 2013):

#### Satisfied with democracy

Question wording: ‘How satisfied are you with the way democracy works in the country?’ Response options: (1) Very satisfied, (2) Rather satisfied, (3) Rather dissatisfied, (4) Very dissatisfied, and other codes representing don’t knows and refusals. The original variable was dichotomized in the merged dataset. The response options ‘very satisfied’ (1) and ‘rather satisfied’ (2) were recoded to ‘1’ (i.e. expressed some level of trust) and all other values (including missing values) were recoded as zero (0).

#### Left-wing orientation

Question wording: ‘Where would you place yourself on this (i.e. ‘left-right’) scale?’; Response options: 11-point scale with answers ranging from ‘0’ (left) to ‘10’ (right) and numerous codes for missing values (e.g. never heard about the left-right scale, don’t know, refused to answer, etc.). The original variable was dichotomized in the merged dataset. The response options ranging from 0–3 were recoded to ‘1’ (i.e. left-wing orientation) and all other values (including missing values) were recoded as zero (0).

### **Right-wing orientation**

Question wording: 'Where would you place yourself on this (i.e. left-right) scale?' Response options: 11-point scale with answers ranging from '0' (left) to '10' (right) and numerous codes for missing values (e.g. never heard about the left-right scale, don't know, refused to answer etc.). The original variable was dichotomized in the merged dataset. The response options ranging from 7–10 were recoded to '1' (i.e. right wing orientation), and all other values (including missing values) were recoded as zero (0).

### **Party attachment**

Question wording: 'Do you feel close to any political party?' Response options: (1) yes, (2) no, and various other codes representing don't knows, refusals, etc. The variable was recoded so that '1' represents those who answered positively (i.e. having party attachment) and '0' represents all other values (i.e. no and missing values).

### **Party attachment (level)**

Level of party attachment was based on answers to three following questions:

1. Do you feel close to any political party? Response options: yes (1), no (2)
2. Do you feel a little closer to one of the political parties than the others? Response options: yes (1), no (2)
3. Do you feel (1) very close to (the mentioned) party, (2) somewhat close, or (3) not very close?

Respondents who answered negatively to the first two questions (or provided missing values) were assigned the lowest level of party attachment (i.e. code '0'). Missing values (i.e. refusals and don't knows) on the third question were coded as feeling not very close on the level of party attachment variable. After recoding and rescaling, values of the final party attachment variable range from 0–1. Code zero (0) represents the lowest level of party attachment (does not at all feel close to any of the political parties) whereas code '1' represents respondents who feel very close to a political party.

### **Government in power matters**

Question wording: Some people say it doesn't make a difference who is in power. Others say that it makes a difference who is in power. Using the scale on this card, (where *one* means that it doesn't make a difference who is in power and *five* means that it makes a difference who is in power), where would you place yourself?

All codes representing missing values were recoded to the central category (i.e. 3) of the original 5-point scale. The variable was subsequently rescaled to 0–1 range where zero (0) means that it does not matter at all who is in power and '1' means that it matters a lot.

### **Voting matters**

Question wording: Some people say that no matter who people vote for, it won't make any difference to what happens. Others say that who people vote for can make a difference to what happens. Using the scale on this card, (where *one* means that voting won't make a difference to what happens and *five* means that voting can make a difference), where would you place yourself? All codes representing missing values were recoded to the central category (i.e. 3) of the original 5-point scale. The variable was subsequently rescaled to 0–1 range where zero means that voting won't make a difference to what happens and '1' means that voting can make a difference.

### **Attend religious services**

Question wording: How often do you attend religious services? Response options varied across surveys: in some surveys (2006, 2010, 2013), there were 8 response options and in other surveys there were only 6 response options (1996, 2002). Therefore, variables were standardized across all surveys to have just 6 categories ranging from never

(6) to at least once a week (1). The standardized variable was subsequently inverted and rescaled to 0–1 range where zero represents never attending religious services (including numerous missing values codes) and ‘1’ represents attending religious services at least once a week.

### **Education level**

Question wording: ‘What is your highest level of education?’ Response options varied across surveys: in some surveys (2006, 2010, 2013), there were 12 response options and in other surveys there were only 8 response options (1996, 2002). Therefore, variables were standardized across all surveys to have just 4 categories: (1) Primary or lower (including all DK/NA responses), (2) Lower secondary, (3) Upper secondary, and (4) Tertiary education. The standardized variable was subsequently rescaled to 0–1 range where zero represents primary or lower and ‘1’ represents tertiary education.

### **Trade union membership**

Question wording: Are you currently or were you in the past a member of a trade union? (asked in 2006, 2010 and 2013 valid response options) or alternatively ‘Are you a member of trade unions?’ (asked in 1996 and 2002 valid response options). This variable was dichotomized so that every respondent answering that they were member of trade unions at the time of interview are coded as 1 and everybody else (including missing values and those who had been members of trade unions in the past) is coded as 0.

### **Age of respondent**

Question wording: Could you please tell me in what year you were born? (asked in 2006, 2010, 2013) or ‘How old are you?’ (asked in 1996 and 2002). For the 2006, 2010 and 2013 datasets, the variable age in years was constructed from year of birth at first. All respondents with missing values were assigned the median age (which was computed from valid answers within the each survey). This variable was then rescaled to 0–1 range where zero (0) represents the minimum age within the particular survey (18 years) and ‘1’ represents the maximum age within the particular survey.

### **Non-linear age**

The non-linear version of age is just the squared version of the rescaled age variable (i.e. rescaled age [with imputed missing values] raised to the power of two).

### **Sex**

The sex of respondent was filled in by the interviewers (except for 1996 when respondents were asked directly). Females are represented by code ‘1’ and men are represented by zero (0) together with the very rare situation of missing values.

### **Marital status**

Question wording: ‘What is your marital status?’ Response options: (1) single, (2) married, (3) divorced, (4) widowed, and other codes representing don’t knows and refusals (the actual coding of answers differs among original datasets). Two dichotomized variables were created from this marital status variable:

- *Single*: single people coded as ‘1’ vs. everybody else (codes as zero)
- *Married*: married people coded as ‘1’ vs. everybody else (codes as zero)

### **Socio-economic status (SES)**

Question wording: What is your current economic status? or alternatively (in 1996 survey): What is your social status? Response options varied across surveys: in some surveys (2006, 2010, 2013), there were 16 response options and in other surveys there were only 10 response options (1996, 2002). Therefore, variables were standardized across all five surveys to have just 8 categories: (1) Employed, (2) Unemployed, (3) Pensioner, (4) Student, apprentice, (5) Housewife/house husband, (6) Entrepreneur,

(7) Disabled, (8) Other, DK/NA. For the purpose of regression modelling, three dichotomized variables were created from this socio-economic status variable:

- *Employed*: employed people (i.e. full-time employees, part-time employees and employed pensioners) coded as '1' vs. everybody else (codes as zero)
- *Self-employed*: self-employed people coded as '1' vs. everybody else (codes as zero)
- *Student*: students coded as '1' vs. everybody else (codes as zero)

The subsequent variables were used as predictor variables (along with some of the above defined) in regression modelling of factual and interpersonal political knowledge based on Czech National Election Study (2006).

### **Occupation**

Question wording: What is (was) your occupation? What kind of job do you have (did you have)? (in 2006, 2010, 2013) or alternatively (in 1996): If you are employed, what is the detailed name of your occupation? These questions were open-ended. The open-responses were coded according to International Standard Classification of Occupations (ISCO-88). To ensure compatibility across surveys, only people employed at the time of interview have valid values on the occupation variable (i.e. last occupations of the retired and the unemployed were not considered because they were not asked in the 1996 post-election survey – these respondents have missing values for the occupation variable). The standardized form of occupation variable is a one-digit ISCO-88 code. For the purpose of regression modelling, four dichotomized variables were created from this standardized variable:

- *Higher professionals*: managers; and professionals (i.e. major groups 1 and 2 from the ISCO-88 classification) coded as '1' vs. everybody else (coded as zero)
- *Lower professionals*: technicians and associate professionals (i.e. major group 3 from the ISCO-88 classification) coded as '1' vs. everybody else (coded as zero)
- *Skilled manual workers*: skilled agricultural, forestry and fishery workers; and craft and related trades workers (i.e. major groups 6 and 7 from the ISCO-88 classification) coded as '1' vs. everybody else (coded as zero)
- *Semi/unskilled workers*: plant and machine operators; and assemblers and elementary occupations (i.e. major groups 8 and 9 from the ISCO-88 classification) coded as '1' vs. everybody else (coded as zero)

### **Community size**

Question wording: What is the size of the community in which you live? Response options varied across surveys: in most surveys (2006, 2010, 2013), there were 8 response options and in the other available survey (2002) there were only 6 response options. Therefore, variables were standardized across all surveys to have just 4 categories: (1) Fewer than 1,999 inhabitants, (2) 2,000 to 4,999 inhabitants, (3) 5,000 to 99,999 inhabitants and (4) More than 100,000 inhabitants. The variable was rescaled to 0–1 range where zero means fewer than 1,999 inhabitants and '1' more than 100,000 inhabitants.

### **Interested in campaign**

Question wording: How closely did you follow the election campaign? (asked in 2006, 2010, 2013) Response options: (1) Very closely, (2) Fairly closely, (3) Not very closely, (4) Not closely at all, (9) DK/NA. The original variable was dichotomized in the merged dataset. The response options (1) 'Very closely' and (2) 'Fairly closely' were recoded to '1' (i.e. followed the election campaign closely) and all other values (including missing values) were recoded as zero (0).

### **Contacted a politician**

Question wording: Over the past 12 months, have you done any of the following things? (Have you) contacted a politician, government official or public servant? Re-

sponse options: (1) Yes, (2) No, (9) DK/NA. For the purpose of regression modelling, the variable was recoded so that code '1' meant that respondent contacted a politician, and code zero (0) represented everything else (i.e. has not contacted and missing values).

### **Being contacted during campaign**

Question wording: During the election campaign, did a candidate or anyone from a political party contact you on the street? Response options: (1) Yes, (2) No, (9) DK/NA. For the purpose of regression modelling, the variable was recoded so that code '1' indicates a respondent was contacted by a candidate and code zero represents everything else (i.e. not being contacted and missing values).

### **Works in the private sector**

Question wording: Are you employed (or were you last employed) in...? The variable had 7 valid response options in 2006, 2010 and 2013, and 4 response options in the 1996 post-election survey. Therefore, the variable was standardized to have the following values: (1) Public sector, (2) Private sector, (3) Mixed sector, i.e. public and private, and (4) Non-profit sector or elsewhere. For the purpose of regression modelling, the following dichotomized variable was created: works in private sector (coded as '1') versus works in any other sector was coded as zero.

### **Civic activism scale**

Question wording: There are different ways of trying to improve things in the Czech Republic or help prevent things from going wrong. During the last 12 months, have you done any of the following? Response options: (1) Yes, (2) No, (9) DK/NA.

Q.27a: Contacted a politician / public official

Q.27b: Worked for a political party

Q.27c: Worked in another organisation or association

Q.27d: Wore a campaign badge/sticker

Q.27e: Signed a petition

Q.27f: Participated in a legal public demonstration

Q.27g: Boycotted certain products

Q.27h: Bought products for political, ethical or environmental reasons

Q.27i: Donated money to a party or organisation

All of these variables were dichotomised to the following format: 'yes' (code '1') vs. all other answers (coded zero). A summated rating scale was created from these 9 items (Cronbach's  $\alpha=.69$  in the 2006 survey). This new variable was subsequently rescaled to 0–1 range where zero (0) means that a respondent has not done any of the 9 activist actions (i.e. was completely inactive) and '1' means that the respondent had done all 9 things during the last 12 months.

### **Media use scale**

Respondents who answered that they use the respective media sources (i.e. television, newspapers, radio and the internet) were subsequently asked the following questions (2006 survey variable names):

Q.6b: On an average week day, how much time do you spend watching TV programmes about politics and current affairs?

Q.6e: On an average week day, how much time do you spend reading about politics and current affairs in newspapers?

Q.6h: On an average week day, how much time do you spend listening to programmes about politics and current affairs on the radio?

Q.6j: On an average week day, how much time do you spend reading about politics and current affairs on the internet?

Response options in 2006: (1) Never, (2) Less than 1 hour, (3) 1 to 2 hours, (4) 2 to 3 hours, (5) 3 to 4 hours, (6) 4 to 5 hours, (7) 5 to 6 hours, (8) More than 6 hours, (9) DK/NA. The response options for 2010 and 2013 were less detailed. For the 2006 'less than 1 hour' per day, and at least half an hour per day for the 2010 and 2013 samples was used as a threshold to dichotomize these items. In other words, all respondents who spent at least some time each day doing these activities were assigned code '1' and all others were coded zero (0). A summated rating scale was created from these 4 dichotomized items (Cronbach's  $\alpha=.44$  in the 2006 survey). This new variable was subsequently rescaled to 0–1 range where zero (0) indicates respondents who deliberately chose not to expose themselves to politics through media, and '1' indicates that they use the media to get information about politics.

### **Interest in politics**

Question wording: How much are you interested in politics? Response options: (1) Very interested, (2) Quite interested, (3) Only a little interested, (4) Not at all interested, (9) DK/NA. All respondents who refused to answer or did not know the answer were recoded as not being interested in politics. This variable was subsequently reverse coded, and rescaled to 0–1 range where zero (0) represents being not at all interested in politics and '1' stands for being very interested in politics.

### **Trust in institutions scale**

Question wording: Please tell me if you trust...? Response options: (1) Strongly trust, (2) Trust somewhat, (3) Distrust somewhat, (4) Strongly distrust, (9) DK/NA.

Q.30a: President of the Czech Republic

Q.30b: Government of the Czech Republic

Q.30c: Chamber of Deputies of the Parliament of the Czech Republic

Q.30d: Senate of the Parliament of the Czech Republic

Q.30e: Regional Assembly

Q.30f: Municipal Assembly

All of these variables were dichotomised to the following format: expressed some level of trust (i.e. answers 'Strongly trust' and 'trust somewhat' were coded as '1') and all other answers (including DK/NA) were coded as zero. A summated rating scale was created from these 6 dichotomized items (Cronbach's  $\alpha=.67$  in the 2006 post-election survey). This new variable was subsequently rescaled to 0–1 range so that zero means not trusting any of the 6 political institutions whereas 1 means expressing trust to all political institutions.

### **Political efficacy scale (external)**

The scale is based on answers to the following four questions:

Q.14: Some people say it doesn't make a difference who is in power. Others say that it makes a difference who is in power. Using the scale on this card, (where *one* means that it doesn't make a difference who is in power and *five* means that it makes a difference who is in power), where would you place yourself?

Q.15: Some people say that no matter who people vote for, it won't make any difference to what happens. Others say that who people vote for can make a difference to what happens. Using the scale on this card, (where *one* means that voting won't make a difference to what happens and *five* means that voting can make a difference), where would you place yourself?

Q.19a: Would you say that any of the political parties represents your views reasonably well?

Q.20a: Regardless of how you feel about the political parties, would you say that any of the individual party leaders at this election represents your views reasonably well?

All of these four variables were standardized at first. Question 14 was dichotomized so that everyone who answered '4' or '5' were assigned the code '1' (i.e. they think who is in power makes a difference) and all other responses were coded as 0 (including missing values). Question 15 was dichotomized so that everyone who answered '4' or '5' was assigned code '1' (i.e. they think voting can make a difference) and all other responses including DK/NA were coded as zero. Questions 19a and 20a were recoded so that everyone who answered 'yes' was assigned code '1' and all other response options were coded as zero. A summated rating scale was created from these 4 items (Cronbach's  $\alpha = .79$  in the 2006 post-election survey). This new variable was subsequently rescaled 0–1 range where zero represents low political efficacy and '1' high political efficacy.

### **Electoral participation**

Question wording (2006): On June 2 and 3 there were Chamber elections. For one reason or another, many people did not vote in these elections. Did you yourself vote in the recent elections? Response options: (1) Yes, (2) No, (3) DK/NA. Respondents claiming that they voted were coded as '1'. All other responses, including DK/NA, were coded as zero.

### **Retrospective economic evaluation**

Question wording: What do you think about the [Czech] economy? Compared twelve months ago, do you think that the general economic situation in this country is...? Response options: (1) Much better, (2) A little better, (3) Same, (4) A little worse, (5) A lot worse, (9) DK/NA. All DK/NA answers were recoded to the central category (i.e. 3) of the original 5-point scale. This variable was then rescaled to 0–1 range where 0 means that the state of the Czech economy has gotten much better and 1 means that it has gotten much worse.

### **Prospective economic evaluation**

Question wording: Do you think that next year the economic situation in our country will be...? (1) Much better, (2) A little better, (3) Same, (4) A little worse, (5) A lot worse, (9) DK/NA. All answers representing missing values were recoded to the central category (i.e. 3) of the original 5-point scale. This variable was then rescaled to 0–1 range where 0 means that the state of the Czech economy will get much better and 1 means that it will get much worse.

### **Participatory, consumer and protesting activism scales**

These three scales were generated using factor analysis. In the first step, the following 10 items, which measure whether respondents did any of the following things during the 12 months before election, have been dichotomized (yes = code '1' vs. all other answers = code zero (0)). Question wording: There are different ways of trying to improve things in the Czech Republic or help prevent things from going wrong. During the last 12 months, have you done any of the following? Response options: (1) Yes, (2) No, (9) DK/NA.

Q.27a: Contacted a politician / public official

Q.27b: Worked for a political party

Q.27c: Worked in another organisation or association

Q.27d: Wore a campaign badge/sticker

Q.27e: Signed a petition

Q.27f: Participated in a legal public demonstration

Q.27g: Boycotted certain products

Q.27h: Bought products for political, ethical or environmental reasons

Q.27i: Donated money to a party or organisation

Q.27j: Participated in illegal protest activities

Principal components analysis was performed on these dichotomized items. Based on the rotated solution (direct oblimin), three factors were extracted (regression method was used for calculating factor scores). The following interpretation was assigned to these three factors:

1. *Partisan activism* (accounting for 27% of variance in the original variables) is highly correlated with 4 original variables: *contacted a politician/public official*, *worked for a political party*, *worked in another organisation or association* and *donated money to a party or organisation*. After rescaling values of this factor to standard 0–1 range, 0 indicates low level of partisan activism (i.e. respondents did none of the above mentioned four activities) whereas 1 indicates high level of partisan activism (i.e. respondents did all four activities).
2. *Consumer activism* (accounting for 12% of variance in the original variables) is highly correlated with 2 original variables: *boycotted certain products* and *bought products for political, ethical or environmental reasons*. After rescaling values of this factor to standard 0–1 range, 0 indicates high level of consumer activism (i.e. respondents did both of the above mentioned activities) whereas 1 indicates low level of consumer activism (i.e. respondents did neither of these two activities).
3. *Protesting activism* (accounting for 12% of variance in the original variables) is highly correlated with 2 original variables: *participated in a legal public demonstration* and *participated in illegal protest activities*. After rescaling values of this factor to standard 0–1 range, 0 indicates low level of protesting activism (i.e. respondents did neither of the above mentioned activities) whereas 1 indicates high level of protesting activism (i.e. respondents both activities).

### **Satisfaction with government**

Question wording: Now thinking about the performance of the government, how good or bad a job has the government done over the past four years? Response options: (1) A very good job, (2) A good job, (3) A bad job, (4) A very bad job, (9) DK/NA. The variable was dichotomized so that respondents thinking that were satisfied with government performance (i.e. choosing either (1) ‘a very good job’ or (2) ‘a good job’) were assigned a code of ‘1’ and all others (including don’t knows and refusals) were assigned code of zero.

### **Subjective living standard of household**

Question wording: Do you consider the living standard of your household to be...? Response options: (1) Very good, (2) Somewhat good, (3) Neither good nor bad, (4) Somewhat bad, (5) Very bad, (9) DK/NA. The small numbers of DK/NA responses were recoded to the middle category (i.e. 3) on the original 5-point scale. This variable was subsequently reverse recoded and rescaled to 0–1 range where zero (0) represents a bad subjective evaluation of household living standard while ‘1’ represents a good one.

## **Appendix for Chapters 9**

### **Political Knowledge Scales**

#### *Objective political scale (8 items)*

Please see the appendix for Chapter 3 for details.

#### *Interpersonal knowledge scale (interviewer evaluation)*

T.6: How do you assess respondent’s awareness about public policy and matters? The response options were: (1) Very high, (2) High, (3) Average, (4) Low, (5) Very low.

*Implicit political knowledge scale*

Please see the appendix for Chapter 6 for details.

Note all of the following questions come from the CVVM survey of November 2012.

**Kruglanski and Webster's (1996) 'need for closure scale', Cronbach's alpha=.55**

Q.35: To what extent do you agree or disagree with the following statements? The response options were an 11-point scale ranging from (0) Strongly agree to (10) Strongly disagree, (97) No answer, (99) Don't know.

- (a) For success in work are essential clear rules and order
- (b) Even if I have already decided on something, I always willing to consider another opinion
- (c) I do not like the questions that can be answered in many different ways
- (d) Important decisions usually do quickly and confidently
- (e) In most conflict situations, I can usually see the truth of both sides
- (f) I do not like it when someone cannot decide

**Believe the world is complex**

Y.4: With regard to decision-making in general, some people are governed by a single concept of the world, while others improvise and decide on a case by case basis. Where would you place yourself on this scale? Show scale. The response options were an 11-point scale: (0) Decide using a single world view, (10) Improvise and decide case by case, (97) Refused to answer, (99) Don't know.

**Believe politics is predictable**

Q.35: To what extent do you agree or disagree with the following statements? The response options were an 11-point scale ranging from (0) Strongly agree to (10) Strongly disagree, (97) No answer, (99) Don't know.

- (k) I believe that politics is inherently unpredictable.

**Pragmatic decision making style**

Q.35: To what extent do you agree or disagree with the following statements? The response options were an 11-point scale ranging from (0) Strongly agree to (10) Strongly disagree, (97) No answer, (99) Don't know.

- (i) When addressing a problem I see many solutions.

**Interest in politics**

Q.1: To what extent would you say you are interested in politics? Response options:

- (1) Very interested, (2) Enough interested, (3) A little interested, (4) Not at all interested, (5) Refused to answer, (6) Don't know.

**Party attachment**

Q.2a: Do you feel close to a political party? Response options: (1) Yes, (2) No, (3) Refused to answer, (4) Don't know.

FILTER: Only for those who have not answered 'yes' in question q.2a.

Q.2b Do you feel that you are a little closer at one party than the other parties? Response options: (1) Yes, (2) No, (3) Refused to answer, (4) Don't know.

FILTER: Only for those who answered 'yes' in question q.2a or q.2b.

Q.2c To which party do you feel closest to? Response options: election specific party codes. Refused to answer = 97, Don't know = 99.

FILTER: Only for those who have in question q.2c indicated a political party.

Q.2d Do you feel very close, fairly close, or not too close to this party? Response options: (1) Very close, (2) Quite close, (3) Not close, (4) Refused to answer, (5) Don't know.

### **Who is in power makes a difference?**

Q.14: Some people say it makes a difference who is in power. Others say that it doesn't make a difference who is in power. Using the scale on this card, (where *one* means that it makes a difference who is in power and *five* means that it doesn't make a difference who is in power), where would you place yourself? The response options were: (1) It makes a difference who is in power... (5) It doesn't make a difference who is in power, (8) Don't know, (9) Refused.

### **Voting makes a difference**

Q.15: Some people say that no matter who people vote for, it won't make any difference to what happens. Others say that who people vote for can make a difference to what happens. Using the scale on this card, (where *one* means that voting won't make a difference to what happens and *five* means that voting can make a difference), where would you place yourself? The response options were: (1) Who people vote for won't make a difference... (5) Who people vote for can make a difference, (8) Don't know, (9) Refused.

### **Internal and external political efficacy scales**

Q.39: To what extent do you agree or disagree with the following statements?

- (a) Generally speaking, those we elect to public office lose touch with the people pretty quickly [External]
- (b) Politicians are interested in people's votes not in their opinions [External]
- (c) I feel that I could do as good a job in public office as most other people [Internal]
- (d) I feel that I have a pretty good understanding of the important political issues facing our country [Internal]
- (e) I don't think the government cares much what people like me think [External]
- (f) I consider myself well-qualified to participate in politics [Internal]

Internal political efficacy scale, Cronbach's alpha=.78

External political efficacy scale, Cronbach's alpha=.71

### **Left-right self-placement scale**

Q.22: Where are you ranked yourself on this scale? Response options on the 11-point scale: 0 (left), 10 (Right), 95 Heard of a left-right scale, 97 Refused to answer.

### **Vote in the next general election**

PV.1: Imagine that next week there were elections to the Chamber of Deputies. Would you vote? Response options: (1) Definitely yes, (2) Rather yes, (3) Rather not, (4) Absolutely not, (8) Not entitled to vote, (9) Do not know.

### **Education**

S.2: What is your highest level of education?

- (1) Elementary or less/DK/Other, (2) Secondary without graduation, (3) Secondary with graduation, (4) University or higher.

### **Household income**

IDE.10: What is the usual net monthly income of your entire household, that is, when you add up the income of all household members? If you are unsure, please estimate at least approximate amount.

### **Unemployed**

IDE.5a: What is your occupation? Respondents were shown a card with occupations and asked to indicate which one applied to them. The response options were: (1) Student, (2) Non-working pensioner, (3) Unemployed, (4) Housewife or on maternity leave, (5) Self-employed with 3 or more employees, (6) Self-employed with 1 or 2 employees, (7) Self-employed with no employees, (8) Higher professional, (9) Lower

professional, (10) White collar, clerical, (11) Service employee, (12) Skilled worker, (13) Unskilled worker, (14) Labourer or agricultural worker, (15) Leader or manager.

### **Media use, Cronbach's alpha=.63**

Y.3: How often do you (a) Watching television news, (b) Read the news in daily newspapers, (c) Listen to news on the radio? Response options: (1) Every day, (2) Several times a week, (3) Once or twice a week, (4) Rarely, (5) Never, (6) Don't know.

### **Community size (subjective)**

IDE.19: When you look at this card, how would you describe the place where you live? Response options: (1) A large city or town, (2) Suburb of a large city or located in the immediate vicinity of a large town, (3) A medium sized town, (4) A small town, (5) Large village, (6) Small village, hamlet or isolated residence, (7) Other type of residence, (8) Don't know, (9) No answer.

## **Appendix for Chapter 12**

Details of the questions from the Images of the World in the Year 2000 survey for (a) political knowledge scale and (b) the Motivation-Ability-Opportunity (MAO) indicators have been presented in the appendices of earlier chapters.

### **Science forecast scale (7 items)**

Q16: We would like to know what you feel about the likely advances in science by the year 2000. Do you feel that...? Response options: (1) Yes, (2) Uncertain, (9) DK/NA.

Q16a1 In the year 2000 scientific knowledge will make it possible to decide in advance the sex of one's child?

Q16b1 In the year 2000 scientific knowledge will make it possible to decide in advance the major features of the personality of one's child?

Q16c1 In the year 2000 scientific knowledge will make it possible to cure dangerous diseases like cancer?

Q16d1 In the year 2000 scientific knowledge will make it possible to decide in advance the economic development of a country?

Q16e1 In the year 2000 scientific knowledge will make it possible to organize the world so that there will be no wars?

Q16f1 In the year 2000 scientific knowledge will make it possible to decide in advance what the weather will be like?

Q16g1 In the year 2000 science will make it possible to go to other planets (not including the moon)

### **Social anomie forecast scale (18 items)**

Question 13: What do you think will be the situation in your country by the year 2000? Do you think that...? Response options: (1) More, (2) About as now, (3) Less, (9) DK/NA.

Q13a: People will be more or less happy than they are today?

Q13b: People will be more interested or less interested in inner experiences and inner life than they are today?

Q13c: People will enjoy their work more or less than they do today?

Q13d: People will believe more or believe less in their religion than they do today?

Q13e: People will be more interested or less interested in material things like cars etc. than they are today?

Q13f: People will be more interested or less interested in social success than they are today?

- Q13g: People will be more kind or less kind to each other than they are today?  
 Q13h: People will be more interested or less interested in having really good friends than they are today?  
 Q13i: There will be more sexual freedom or less sexual freedom for young people than there is today?  
 Q13j: People will be more attached or less attached to their families than they are today?  
 Q13k: There will be more divorce or less divorce or marriages than there is today?  
 Q13l: People will have more leisure or less leisure time than they have today?  
 Q13m: There will be more unemployment or less unemployment than there is today?  
 Q13n: People will be more similar or less similar to each other than they are today?  
 Q13o: There will be more difference or less difference between people high up and people low down in society than there is today?  
 Q13p: There will be more mental illness or less mental illness than there is today?  
 Q13q: There will be more use or less use of narcotics and drugs than there is today?  
 Q13r: There will be more criminality or less criminality than there is today?

## Appendix for Chapter 13

### Czech Expert Survey of Party Policy Positions, November 2013 to January 2014

#### (1) Economic policy: (Taxes vs Spending) – POSITION/IMPORTANCE\*

- 1: Promotes raising taxes to increase public services  
 20: Promotes cutting public services to cut taxes

#### (2) Social policy: (Social Liberalism) – POSITION/IMPORTANCE \*

- 1: Favours liberal policies on matters such as abortion, homosexuality, and euthanasia  
 20: Opposes liberal policies on matters such as abortion, homosexuality, and euthanasia

#### (3) Economic policy (Privatization) – POSITION/IMPORTANCE \*

- 1: Promotes maximum state ownership of business and industry  
 20: Opposes all state ownership of business and industry

#### (4) Environment – POSITION/IMPORTANCE \*

- 1: Supports protection of the environment, even at the cost of economic growth  
 20: Supports economic growth, even at the cost of damage to the environment

#### (5) Decentralisation – POSITION/IMPORTANCE \*

- 1: Promotes decentralization of all administration and decision making  
 20: Opposes any decentralization of administration and decision making

#### (6) Market regulation – POSITION/IMPORTANCE \*

- 1: Favours high levels of state regulation and control of the market  
 20: Favours deregulation of markets at every opportunity

#### (7) Support of business – POSITION/IMPORTANCE

- 1: Favours policies to ensure most control of business in the Czech Republic  
 20: Favours policies to facilitate business in the Czech Republic

#### (8) EU: Authority – POSITION/IMPORTANCE\*

- 1: Favours increasing the range of areas in which the EU can set policy  
 20: Favours reducing the range of areas in which the EU can set policy

(9) Media freedom – POSITION/IMPORTANCE \*

1: The mass media should be completely free to publish any material they see fit

20: The content of mass media should be regulated by the state in the public interest

(10) EU: Strengthening – POSITION/IMPORTANCE \*

1: Favours a more powerful and centralized EU

20: Opposes a more powerful and centralized EU

(11) Tax system – POSITION/IMPORTANCE

1: Favours a highly progressive tax system

20: Favours a flat tax system

(12) Euro – POSITION/IMPORTANCE

1: Favours adoption of the euro as the domestic currency

20: Opposes adoption of the euro as the domestic currency

(13) Civil liberties – POSITION/IMPORTANCE\*

1: Promotes protection of civil liberties, even when this hampers efforts to fight crime and promote law and order

20: Supports tough measures to fight crime and promote law and order, even when this means curtailing civil liberties

(14) Immigration – POSITION/IMPORTANCE\*

1: Favours policies designed to help asylum seekers and immigrants integrate into Czech society

20: Favours policies designed to help asylum seekers and immigrants return to their country of origin

(15) Health care – POSITION/IMPORTANCE\*

1: Advocates that the government should provide universal free health care

20: Advocates medical expenses should be paid by individuals and private insurance plans

(16) Benefits of EU membership – POSITION/IMPORTANCE

1: Advocates that EU membership is beneficial for the Czech Republic

20: Advocates that EU membership is not beneficial for the Czech Republic

(17) Former communists – POSITION/IMPORTANCE\*

1: Former communist party officials should have the same rights and opportunities as other citizens to participate in public life

20: Former communist party officials should be kept out of public life as far as possible

(18) Nationalism – POSITION/IMPORTANCE\*

1: Strongly promotes a cosmopolitan rather than a Czech national consciousness, history, and culture

20: Strongly promotes a Czech national rather than a cosmopolitan consciousness, history, and culture

(19) The general left-right dimension – POSITION\*

Please locate each party on a general left-right dimension, taking all aspects of party policy into account.

1: Left

20: Right

(20) Respondent sympathy/closeness to party – POSITION\*

Taking all aspects of party policy into account, please score each party in terms of how close it is to your own personal views.

1: Same as the respondent

20: Farthest from respondent

Note that all 15 scales indicated with a star (\*) are the same as those in Laver and Benoit (2006: Appendix A, pp. 168–175). An additional, four Czech-specific scales were also included in this expert survey.

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**POLITICAL KNOWLEDGE**

**IN THE CZECH REPUBLIC**

**Pat Lyons**

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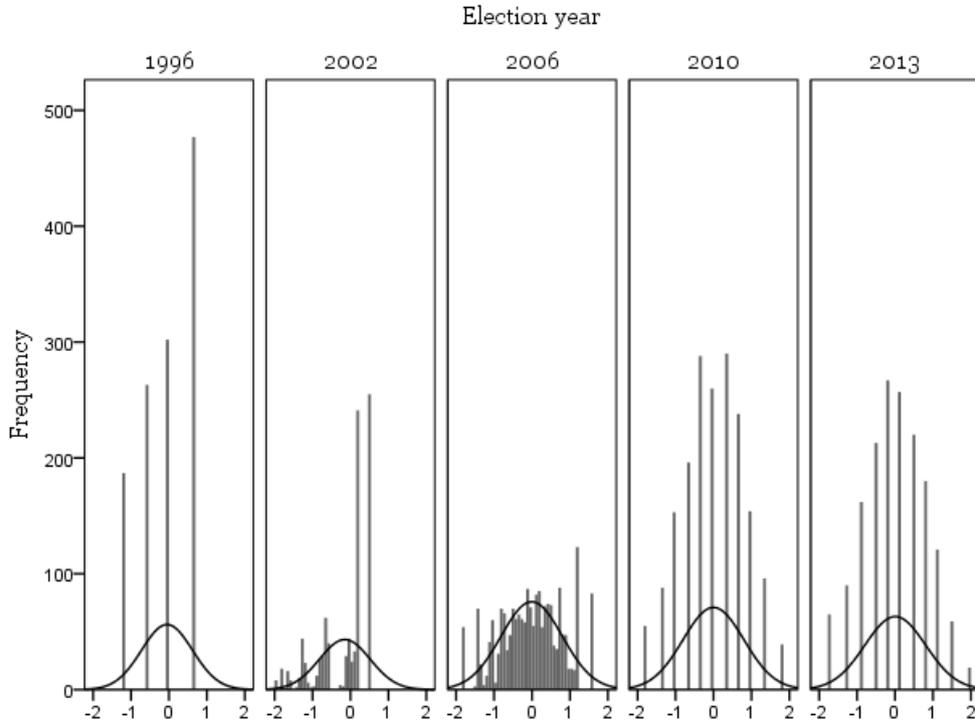
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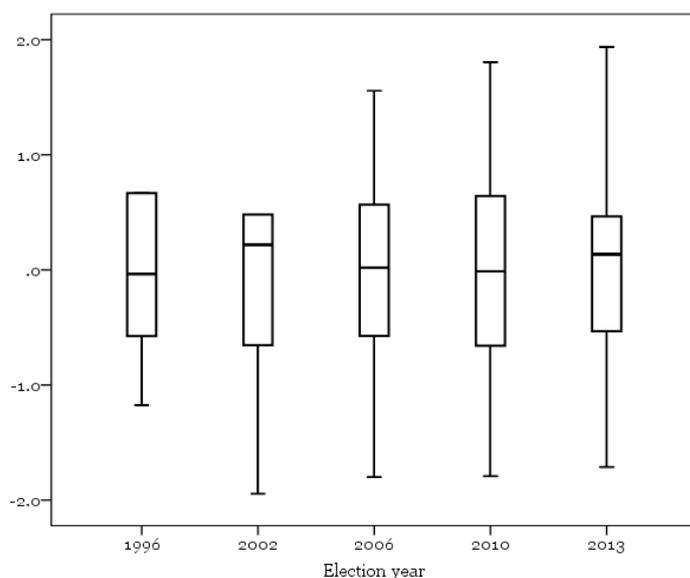
## Appendix for Chapter 2

**Figure A2.1: Histograms of the distribution of political knowledge scores in Czech post-election surveys, 1996–2013**



Sources: Czech National Election Studies, 1996–2013,  $n=1229, 944, 2002, 1857$  and  $1653$  respectively. Note that the estimates in the boxplots are Item Response Theory (IRT) model estimates from the knowledge scales for each year. The estimates are from Rasch models for 1996, 2010 and 2013 and from two-part logistic (2PL) models for 2002 and 2006. All IRT scales have a range of -2 to +2. The solid black line indicates a normal (Gaussian) distribution. The distributions for 1996 and 2002 are negatively skewed with most respondents scoring highly on the knowledge quiz. With more political knowledge questions in 2006, 2010 and 2013 the difficulty of items increased resulting a broader range of correct answers thereby yielding more valid and reliable measures of political knowledge.

**Figure A2.2: A boxplot comparison of the distribution of political knowledge scales in Czech post-election surveys, 1996–2013**



Sources: Czech National Election Studies, 1996–2013

Note that the estimates in the boxplots are Item Response Theory (IRT) model estimates from the knowledge scales for each year. The estimates are from Rasch models for 1996, 2010 and 2013 and from two-part logistic (2PL) models for 2002 and 2006. The central horizontal line in the boxplots represents the median estimate. The boxplots show, similarly to Figure A2.1 and Table A2.2 that the distributions for 1996 and 2002 are negatively skewed suggesting the knowledge questions were too easy as most respondents answered close to all items correctly. Due to the skewed distribution of the knowledge scale estimates for 2002 the mean score suggests a fall in knowledge for this year. The trend in median estimates (which are less influenced by extreme values in the data) shows a more or less constant level of knowledge. Here it is best to conclude that Czechs level of political knowledge has remained largely constant over time.

**Table A2.2: Summary statistics for all political knowledge IRT scales, 1996–2013**

<i>Summary statistics</i>	<i>1996</i>	<i>2002</i>	<i>2006</i>	<i>2010</i>	<i>2013</i>
Lower 95%CI	-.09	-.19	-.04	-.04	-.03
Mean	-.05	-.15	-.01	<.01	.01
Upper 95%CI	-.01	-.11	.03	.04	.05
Median	-.04	.22	.02	-.01	.14
Variance	.45	.45	.66	.65	.65
Skewness	-.34	-.97	-.12	-.06	-.05
Kurtosis	-1.22	-.24	-.57	-.38	-.41

Source: Czech National Election Surveys, 1996 – 2013, n=1229, 944, 2002, 1857 and 1653 respectively. CI denotes lower and upper 95% confidence interval estimates around the arithmetic mean. The estimates are from Rasch models for 1996, 2010 and 2013 and from two-part logistic (2PL) models for 2002 and 2006. Although the trend in mean estimates suggests a dip in knowledge in 2002; however, the overall trend using the median and taking variation in the estimates into account (see Figure A2.1) is one of a constant level of knowledge between 1996 and 2013.

**Table A2.3: IRT models of ‘new’ and ‘old’ political knowledge scales implemented in the Czech National Election Study of 2013**

<i>Two part Logistic (2PL) IRT models and variables</i>	<i>2PL all</i>		<i>2PL old</i>		<i>2PL new</i>	
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
<i>Difficulty parameters:</i>						
Members of regional councils are selected through regional elections (true)	-1.22	.11	-1.39	.15	NA	NA
Czech Republic formally came into existence in 1989 (false)	-.91	.08	-.82	.08	NA	NA
Citizens elect the President of the European Commission (no)	.10	.05	.11	.05	NA	NA
System of electing members of the Chamber of Deputies (proportional)	.34	.05	.34	.05	NA	NA
EU has 25 member states (true in 2006, false in 2010, 2013)	.57	.07	.54	.06	NA	NA
Canada is a permanent member of the UN’s Security Council (false)	2.05	.20	1.87	.18	NA	NA
Party won the second largest number of seats in elections (ANO)	-1.27	.09	NA	NA	-1.30	.11
Minister of finance in the previous govt. (Jan Fischer)	-.29	.05	NA	NA	-.21	.04
Secretary General of the United Nations (Ban Ki-moon)	1.31	.09	NA	NA	1.54	.15
Level of unemployment in Oct. 2013 (7.5%)	1.43	.13	NA	NA	1.85	.24
<i>Discrimination parameters:</i>						
System of electing members of the Chamber of Deputies (proportional)	1.64	.13	1.59	.17	NA	NA
Citizens elect the President of the European Commission (no)	1.27	.10	1.17	.11	NA	NA
Czech Republic formally came into existence in 1989 (false)	1.07	.09	1.24	.13	NA	NA
EU has 25 member states (true in 2006, false in 2010, 2013)	1.12	.10	1.22	.13	NA	NA
Members of regional councils are selected through regional elections (true)	.94	.09	.80	.09	NA	NA
Canada is a permanent member of the UN’s Security Council (false)	.86	.10	.97	.12	NA	NA
Minister of finance in the previous government (Jan Fischer)	1.39	.11	NA	NA	3.03	.83
Level of unemployment in Oct 2013 (7.5%)	.94	.09	NA	NA	.68	.10
Party won second largest number of seats in elections (ANO)	1.30	.12	NA	NA	1.26	.15
Secretary General of the United Nations (Ban Ki-moon)	1.47	.14	NA	NA	1.13	.14
Log likelihood	-9124		-5806		-3560	
AIC	18289		11636		7137	
BIC	18397		11701		7180	

Source: Czech National Election Surveys, Oct. 28 – Nov. 11, 2013, n=1653

Note that the model parameter estimates are based on two part logistic item response theory (2PL IRT) regression model. The results refer to the relative difficulty of specific questions (i.e. difficulty) and the extent to which particular items help to distinguish between two respondents of equal knowledge ability (i.e. discrimination). These models compare the use of ‘old’ and ‘new’ CSSES knowledge questions implemented in the same survey. NA indicates variables that are ‘not applicable’ in a model, e.g. old knowledge variables in a new variables model.

## Appendix for Chapter 3

The set of factual political knowledge questions examined in this book come from a set of slightly less than a dozen national surveys fielded in the Czech Republic over two decades between 1996 and 2013. Most of these surveys are post-election studies that form part of the Comparative Study of Electoral Systems (CSES) international research project.

A complete listing of CSES 'political information' questions is given later in this appendix, and these items facilitate comparative research. The selection criteria for the political knowledge questions examined in this chapter was (1) surveys that asked about party choices in elections, or key political events such as the Velvet Revolution (1989); and (2) the knowledge questions examined respondents' level of political facts with open-ended items, or employed a simple quiz format.

Political knowledge questions fielded by Eurobarometer are not examined in this book. This is because these detailed analyses of these data would require a separate book dealing with how knowledge shapes attitudes to European integration. In general, comparative survey research programmes such as the European Social Survey (ESS) and the International Social Survey Programme (ISSP) do not ask political knowledge items because of the difficulty of making international comparisons. Nonetheless, Almond and Verba (1963: 57–58) in their seminal comparative study did include a battery of knowledge of party leaders and government ministers that was used for making comparative inferences.

### **Images of the World in the Year 2000 Survey, Czechoslovak Academy of Sciences, June 1967**

This survey was part of a comparative study in eleven countries that explored the attitudes of the 'younger generation' toward the future, i.e. the world in the second millennium. Most questions focussed on measuring respondents' perceptions of likely future developments in (a) science and society and (b) international relations and war. Consequently, a battery of sixteen true or false quiz questions was asked about specific countries membership of the two main military alliances during the Cold War: the North Atlantic Treaty Organisation (NATO) and the Warsaw Treaty Countries.

Q30: I am going to read out a list of countries. Can you tell me for each one whether it belongs to NATO, to the Warsaw Treaty Organisation or to neither of these? Response options: (0) Don't know, no answer, (1) NATO, (2) Warsaw Treaty, (3) Neither. Note that the correct answer to each knowledge item is indicated in square parentheses.

- Q30a: Czechoslovakia [Warsaw Treaty]
- Q30b: Denmark [NATO]
- Q30c: Finland [Neither]
- Q30d: France [NATO]
- Q30e: Federal Republic of Germany [NATO]
- Q30f: Italy [NATO]
- Q30g: Netherlands [NATO]
- Q30h: Norway [NATO]
- Q30i: Poland [Warsaw Treaty]
- Q30j: Soviet Union [Warsaw Treaty]
- Q30k: Spain [Neither]
- Q30l: Sweden [Neither]
- Q30m: Switzerland [Neither]
- Q30n: United Kingdom [NATO]
- Q30o: USA [NATO]
- Q30p: Yugoslavia [Neither]

### **Czech National Election Study, STEM, June 9–19, 1996**

Three political knowledge items were asked in this post-election survey as part of the CSES module. All questions were open-ended where the interviewer recorded verbatim answers. Note that these written responses were coded as 'correct', 'incorrect' and 'missing' where the latter category probably includes those who replied 'don't know', refused to answer or made no answer.

Q.56: Can you tell me how many percent of votes has a political party to gain in our country in elections in order to get into parliament? WRITE OUT. [Correct answer: 5%]

Q.57: Who was the last minister of transportation before the elections? WRITE OUT. [Correct answer: Vladimír Budinský, ODS, Oct. 11 1995 – July 4 1996]

Q.58: How many members has our parliament? WRITE OUT. [Correct answer: 200]

### **Czech National Election Study, CVVM, July 24 – August 1, 2002**

Six political knowledge items were asked in this post-election survey where the first three items were open-ended and the final three were closed.

PI.26a-c: In June [2002] who was:

(a) Chairman of the Senate? WRITE OUT. [Correct answer: Petr Pithart]

(b) Chairman of the Chamber of Deputies? WRITE OUT. [Correct answer: Václav Klaus]

(c) Prime Minister? WRITE OUT. [Correct answer: Miloš Zeman]

PI.27a: Who elects the President of the Czech Republic? Is it elected by the Chamber of Deputies, the Senate, or the whole Parliament that is the Chamber of Deputies and the Senate together? Response options: (1) Chamber of Deputies, (2) Senate, (3) Parliament, Chamber of Deputies and the Senate [Correct], (9) Don't know.

PI.27b: Who holds the highest constitutional office in the Czech Republic? Response options: (1) President [Correct], (2) Prime Minister, (3) President of the Chamber of Deputies, (9) Don't know.

PI.27c: After the elections in 1998, the two political parties ČSSD and ODS deal. What was this agreement called? Response options: (1) the Saint Václav's Agreement, (2) the Opposition Agreement [Correct], (3) the Toleration Decree, (9) Don't know.

### **CVVM, pre-election, survey, May 8–25, 2006**

Nine political knowledge items were asked. Three items for each level of governance, i.e. sub-national (Z.25–27), national (Z.22–24), and international (Z.25–27) was asked.

#### *Instructions read to respondents:*

For the following questions (Z.22 to Z.30) if you do not know the correct answer, or you are not sure, please feel free to select the response: 'Don't know, I am not sure'. This answer is worth more to us than if you guess the correct answer.

Z.22: In what year did Czechoslovakia formally split into the Czech Republic and Slovakia? The response options were: (1) 1968, (2) 1989, (3) 1993 [Correct], (4) 1998, (9) Don't know

Z.23: Are members to the Chamber of Deputies elected using a proportional or majoritarian electoral system? The response options were: (1) Proportional [Correct], (2) Majoritarian, (9) Don't know.

Z.24: Václav Klaus is currently the President of the Czech Republic. How was he elected? The response options were: (1) Through a national election where all citizens could vote, (2) Following a vote in both the Chamber of Deputies and the Senate [Correct], (3) Political parties made an agreement among themselves and appointed him, (4) It is the Constitutional Court who chooses the President, (9) Don't know.

Z.25: How are members of regional (kraje) assemblies selected? The response options were: (1) Political parties decide who can be members, (2) The government appoints all regional assembly members, (3) There are regional assembly elections [Correct], (4) Local councils select representatives to serve on regional assemblies, (9) Don't know.

Z.26: Could you please tell me the name of the Hejtman in this region or Mayor (if the respondent lived in Prague)? Open response option as verbatim answers were recorded and coded later as either true or false.

Z.27: Responsibility for public politics and policy is divided between the local level, the regional level and the central government. Which is primarily responsible for waste disposal? The response options were: (1) The municipality [Correct], (2) The region, (3) The national government, (4) It is a shared responsibility of all three institutions, (9) Don't know.

Z.28: How many member states are there currently in the European Union? The response options were: (1) 12, (2) 15, (3) 25 [Correct], (4) 30, (9) Don't know.

Z.29: Do the citizens of the European Union directly elect the President of the European Commission? The response options were: (1) Yes, (2) No [Correct], (9) Don't know.

Z.30: Which of the following countries is a permanent member of the UN Security Council? The response options were: (1) Canada, (2) Japan, (3) Russia [Correct], (4) Italy, (9) Don't know.

### **Czech National Election Study, CVVM, June 9–21, 2006**

Ten political knowledge items were asked. Three/four items for each level of governance, i.e. sub-national (x3: Q.33, Q.35d, Q.35e), national (x4: Q.31a, Q.32, Q.35a, Q.35b), and international (x3: Q.34, Q.35c, Q.35f). The first question was not formally part of the battery of political knowledge, but may be considered a factual knowledge item.

Q.31a: Not every party has a chance to succeed in the polls and get to the Chamber of Deputies. How many percent must a party get to obtain a seat? The response options were: (1) Percentage (verbatim response – correct answer 5%), (7) Refused, (9) Don't know.

#### *Instructions read to respondents:*

For the following questions (Q.32 to Q.35) if you do not know the correct answer, or you are not sure, please feel free to select the response: 'Don't know, I am not sure'. This answer is worth more to us than if you guess the correct answer.

Q.32: Are the deputies to the Chamber elected on a proportional representation or majority principle? The response options were: (1) Proportional [Correct], (2) Majoritarian, (7) Refused, (9) Don't know, I am not sure.

Q.33: Could you please tell me the name of Hejtman of your region (or Mayor in the case of Prague)? The response options were: (1) Name (verbatim response coded as correct/incorrect by CVVM), (97) Refused, (99) Don't know, I am not sure.

Q.34: Do EU citizens elect the President of European Commission? The response options were: (1) Yes, (2) No [Correct], (7) Refused, (9) Don't know, I am not sure.

Q.35: Are the following statements true or false? The response options were: (1) True, (2) False, (7) Refused, (9) DK. All responses were subsequently coded as correct or incorrect.

- (a) Czech Republic was formally established in 1989 [Incorrect]
- (b) The current president Václav Klaus was elected based on a vote of the Senate and the Chamber of Deputies [Correct]
- (c) At present, the EU has 25 member states [Correct in 2006]
- (d) Members of regional councils are chosen based on the results of the elections to the regional councils [Correct]
- (e) Regional councils are responsible for domestic waste [Incorrect]
- (f) Canada is a permanent member of the United Nation's Security Council [Incorrect]

### **ISSP, Role of Government Survey Module IV, SC&C, October–November, 2006**

Nine political knowledge items were asked. Three items for each level of governance, i.e. sub-national (C.6b, C.6g, C.6h), national (C.6a, C.6d, C.6e) and international (C.6c, C.6f, C.6i).

#### *Instructions read to respondents:*

C.6: For the following questions (C.6a to C.6d) if you do not know the correct answer, or you are not sure, please feel free to select the response: 'Don't know, I am not sure'. This answer is worth more to us than if you guess the correct answer.

C.6a: Are the deputies to the Chamber elected on a proportional representation or majority principle? The response options were: (1) Proportional [Correct], (2) Majoritarian, (8) Refused, (9) Don't know, I am not sure.

C.6b: Could you please tell me the name of Hejtman of your region (or Mayor in the case of Prague)? The response options were: (1) Name (verbatim response coded as correct/incorrect), (97) Don't know, am not sure, (98) Refused, no answer.

C.6c: Do EU citizens elect the President of European Commission? The response options were: (1) Yes, (2) No [Correct], (7) Refused, (9) Don't know, I am not sure.

C.6d: Are the following statements true or false? The response options were: (1) Correct, (2) Incorrect, (8) Don't know, I am not sure, (9) No answer. All responses were subsequently coded as correct or incorrect.

- (a) The Czech Republic was formally established in 1989 [Incorrect]
- (b) The current president Václav Klaus was elected based on a vote of the Senate and the Chamber of Deputies [Correct]
- (c) At present, the EU has 25 member states [Correct]
- (d) Members of regional councils are chosen based on the results of the elections to the regional councils [Correct]

- (e) Regional councils are responsible for domestic waste [Incorrect]
- (f) Canada is a permanent member of the United Nation's Security Council [Incorrect]

**European Election Survey, Czech wave, FOCUS, June 7–27, 2009**

Q92–Q98. Now, I have some questions about the European Union and the Czech Republic. I will read you a few statements. For each one, please tell me whether you think the statement is true or false. If you do not know please tell me to skip to the next question. The response options were: (1) True, (2) False, (7) Refused to answer, (8) Do not know. Note that the statements were presented in a random order to each respondent.

- Q92: Switzerland is a member of the EU [False]
- Q93: EU consists of 25 member countries [False, n=27]
- Q94: Each EU country chooses the same number of representatives to the European Parliament [False]
- Q95: Every six months, a different Member State becomes president of the Council of the European Union [True]
- Q96: The name of the Minister of Education, Youth and Sports of the Czech Republic is Miroslava Kopicová [True]
- Q97: Individuals must be 25 or older to stand as candidates for the Chamber of Deputies [False]
- Q98: In the Chamber of Deputies of the Parliament of the Czech Republic there are 300 deputies [False]

**Czech National Election Study, CVVM, July 1–31, 2010**

Ten political knowledge questions were asked. Three or four items for each level of governance, i.e. sub-national (x3: Q.33, Q.35d, Q.35e), national (x4: Q.31a, Q.32, Q.35a, Q.35b), and international (x3: Q.34, Q.35c, Q.35f). Within the comparative study of political knowledge, using CSES data, there are relatively high proportions of respondents who answer 'don't know.' This may be due to the Czech Question wording explicitly, as shown below, encouraging respondents not to guess the answers if they were unsure.

Q.31a: Not every party has a chance to succeed in the polls and get to the Chamber of Deputies. How many percent must a party get to obtain a seat? The response options were: (1) Percentage (verbatim response – correct answer 5%), (7) Refused, (9) Don't know.

*Instructions read to respondents:*

For the following questions (Q.32 to Q.35) if you do not know the correct answer, or you are not sure, please feel free to select the response: 'Don't know, I am not sure'. This answer is worth more to us than if you guess the correct answer.

- Q.32: Are the deputies to the Chamber elected on a proportional representation or majority principle? The response options were: (1) Proportional [Correct], (2) Majoritarian, (7) Refused, (9) Don't know, I am not sure.
- Q.33: Could you please tell me the name of Hejtman of your region (or Mayor in the case of Prague)? The response options were: (1) Name (verbatim response coded as correct/incorrect by CVVM), (97) Refused, (99) Don't know, I am not sure.
- Q.34: Do EU citizens elect the President of European Commission? The response options were: (1) Yes, (2) No [Correct], (7) Refused, (9) Don't know, I am not sure.
- Q.35: Are the following statements true or false? The response options were: (1) True, (2) False, (7) Refused, (9) Don't know, I am not sure. All responses were subsequently coded as correct or incorrect.
  - (a) The Czech Republic was formally established in 1989 [Incorrect]
  - (b) The current president Václav Klaus was elected based on a vote of the Senate and the Chamber of Deputies [Correct]
  - (c) At present, the EU has 25 member states [Incorrect, n=27]
  - (d) Members of regional councils are chosen based on the results of the elections to the regional councils [Correct]
  - (e) Regional councils are responsible for domestic waste [Incorrect]
  - (f) Canada is a permanent member of the United Nation's Security Council [Incorrect]

### **CVVM, November 5–12, 2012 (A special survey of political knowledge)**

Eight political knowledge questions were asked. Two or three items for each level of governance, i.e. sub-national (Q.35d, Q.35e), national (Q.32, Q.35a, Q.35b), and international (Q.34, Q.35c, Q.35f).

#### *Instructions read to respondents:*

For the following questions (Q.32 to Q.35) if you please do not know the correct answer, or you are not sure, please feel free to select the response: 'Don't know, I am not sure'. This answer is worth more to us than if you guess the correct answer.

Q.32: Are the deputies to the Chamber elected on a proportional representation or majority principle? The response options were: (1) Proportional [Correct], (2) Majoritarian, (7) Refused, (9) Don't know, I am not sure.

Q.34: Do EU citizens elect the President of European Commission? The response options were: (1) Yes, (2) No [Correct], (7) Refused, (9) Don't know, I am not sure.

Q.35: Are the following statements true or false? The response options were: (1) True, (2) False, (7) Refused, (9) Don't know, I am not sure. All responses were subsequently coded as correct or incorrect.

- (a) The Czech Republic was formally established in 1989 [Incorrect]
- (b) The current president Václav Klaus was elected based on a vote of the Senate and the Chamber of Deputies [Correct]
- (c) At present, the EU has 25 member states [Incorrect, n=27]
- (d) Members of regional councils are chosen based on the results of the elections to the regional councils [Correct]
- (e) Regional councils are responsible for domestic waste [Incorrect]
- (f) Canada is a permanent member of the United Nation's Security Council [Incorrect]

### **Czech National Election Study, CVVM, October 28 – November 11, 2013**

Ten political knowledge questions were asked. Three/four items for each level of governance, i.e. sub-national (x2: Q.35d, Q.35e), national (x4: Q.32, Q.35a, Q.35b, Q.20a–c), and international (x4: Q.34, Q.35c, Q.35f, Q.20d). The final four questions (Q.20a–d) are the CSES Module 4 questions. Within the comparative study of political knowledge using CSES data there are relatively high proportions of respondents who answer 'don't know.' This may be due to the Czech Question wording explicitly, as shown below, encouraging respondents not to guess the answers if they were unsure.

#### *Instructions read to respondents:*

For the following questions (Q.32 to Q.35) if you please do not know the correct answer or you are not sure, please feel free to select the response: 'Don't know, I am not sure'. This answer is worth more to us than if you guess the correct answer.

#### *OLD CSES ITEMS (CZECH WAVES, 2006, 2010, 2013):*

Q.32: Are the deputies to the Chamber elected on a proportional representation or majority principle? The response options were: (1) Proportional [Correct], (2) Majoritarian, (7) Refused, (9) Don't know, I am not sure.

Q.34: Do EU citizens elect the President of European Commission? The response options were: (1) Yes, (2) No [Correct], (7) Refused, (9) Don't know, I am not sure.

Q.35: Are the following statements true or false? The response options were: (1) True, (2) False, (7) Refused, (9) Don't know, I am not sure. All responses were subsequently coded as correct or incorrect.

- (a) The Czech Republic was formally established in 1989 [Incorrect]
- (c) At present, the EU has 25 member states [Correct in 2006 and incorrect thereafter]
- (d) Members of regional councils are chosen based on the results of the elections to the regional councils [Correct]
- (f) Canada is a permanent member of the United Nation's Security Council [Incorrect]

#### *NEW CSES ITEMS (CZECH WAVES, 2013):*

Q20a: Which of these persons was the Finance Minister before the recent election? Response options: (1) Jiří Rusnok, (2) Martin Pecina, (3) Jan Fischer [Correct], (4) Jan Kohout, (7) Refused to answer, (8) Don't know.

Q20b: What was the current unemployment rate in the Czech Republic as of October 2013? Response options: (1) 5.5%, (2) 7.5% [Correct], (3) 9.5%, (4) 11.5%, (7), Refused to answer, (8) Don't know.

Q20c: Which party came in second in seats in the lower chamber elections? Response options: (1) ČSSD, (2) KSČM, (3) ANO [Correct], (4) TOP 09, (7) Refused to answer, (8) Don't know.

Q20d: Who is the current Secretary General of the United Nations? Response options: (1) Kofi Annan, (2) Kurt Waldheim, (3) Ban Ki-moon [Correct], (4) Boutros Boutros-Ghali, (7) Refused to answer, (8) Don't know.

### **AISA Post-Election Survey for First Democratic Election, November 1990**

These data and questionnaire are available from the German Social Data Archive (GESIS). This survey is archived as ZA 2561. Some of the translated questions have been revised for style to make them more understandable in English.

#### *Introduction to the interview:*

Dear sir or madam, the survey into which you have been included on the basis of random selection is devoted to some crucial problems of our political, economic, and social development. The solution of these problems must respect also the opinions and standpoints of the entire public. This is precisely the reason why the Association for Independent Social Analysis (AISA) is undertaking this survey, while guaranteeing the absolute anonymity of your answers. We believe that the results of the survey will contribute to the positive development in our country. We are aware of the demanding character of the interview, and would therefore like to ask you to devote to it your attention and some of your free time. Do not ponder your answers; we are interested in your own personal views.

#### **Section A: Political attitudes**

Allow me first to ask you several questions concerning the political situation and political development in this country.

#### *Satisfaction with politics:*

Q.5: When you consider the overall political development in our country in the past year, would you say that you are? Response options: (1) highly dissatisfied, (2) rather unsatisfied, (3) rather satisfied, (4) highly satisfied, (9) No answer.

#### *Political expectations:*

Q.6: Which of the following statements best expresses your expectations as regards our future political developments? Please choose only one. Response options: (1) Different people will take turns in holding power, but little will change in other respects; (2) We will have to pass through a complicated stage of unrest and political reversals before a lasting democratic system is formed in this country; (3) Although we will take a long time to learn democracy, we will make systematic and visible progress toward having a permanent democracy; (4) A democratic political system will be formed and stabilized in our country relatively quickly without serious problems, (9) No answer.

#### *Political efficacy (external):*

Q.29: To what extent do you feel you personally can have a say in matters which are the subject of major decisions by the government, parliament, etc.? Response options: (1) not at all, (2) to a small extent, (3) to some extent only, (4) to a considerable extent, (9) no answer.

#### **Section B: Views of the functioning of the state and political system (questions 45–54)**

Now, I would like to ask you for some answers regarding your idea of the functioning of your state and political system. Though the following questions are somewhat detached from daily life, it is nevertheless important to know how they are viewed by [ordinary] people.

#### *How should the constitution be changed?*

Q.35: Some people say that a document of such importance as the Constitution should be decided upon by all citizens in a referendum. Others believe that this is a matter for experts and its competent judgement should be entrusted to the federal and national parliaments. Which of these views is closest to your own? Response options: (1) Have a referendum, (2) Entrust to parliaments, (9) No answer.

#### *Constitutional priority?*

Q.36: Two opposite standpoints appear in connection with the drafting of the [federal] Constitution. Which of them do you agree with most? Response options: (1) Constitutions for the two republics [Czech and Slovak], which would best express the interests of the two nations, should be drafted prior to creating a [federal] constitution for the whole state where the latter would only include things that

acceptable to both republics; (2) The [federal] constitution for the state should be created first, and the national constitutions would only deal with the specificities of the [Czech and Slovak] republics, (9) No answer.

*Right for independence in the constitution?*

Q.52: Do you think that the right for independence for each of the republics should be explicitly laid down in the constitution? Response options: (1) Yes, (2) No, (9) No answer.

*Who decides dissolution of the federation?*

Q.53: Who, in your opinion, can decide upon the withdrawal of one of the republics from the federation? Response options: (1) Members of parliament elected in free elections, (2) Citizens in a referendum, (9) No answer.

*Dissolution decision?*

Q.54: Do you agree with the view that a decision taken by any one of the republics alone should be sufficient for its becoming independent, or should such a decision be approved by both republics? Response options: (1) A decision by one republic alone is sufficient, (2) Both republics must approve, (9) No answer.

**Section C: Nationality problems; relations between the Czech and Slovak republics (Questions 54–93)**

*Dissolution of Czechoslovakia?*

Q.77: If you consider all the circumstances, are you in favour of two separate states being formed instead of the present single one? Response options: (1) Yes, (2) rather so, (3) Rather not, (4) No, (9) No answer.

*Recall party choice in the first democratic elections of June 1990*

Q.23: Can you please tell us to whom you gave your vote in the June 1990 elections to the Federal Parliament? The response options were the following.

- 1 Civic Forum (OF)
- 2 Public Against Violence (VPN)
- 3 Communist Party (KSČ)
- 4 Christian Democratic Movement (KDH)
- 5 Christian Democratic Party (KDU)
- 6 Czechoslovak People's Party (ČSL)
- 7 Slovak National Party (SNS)
- 8 Movement for Autonomous Democracy – Association for Moravia and Silesia (HSD-SMS)
- 9 Democratic Party (DS)
- 10 Green Party (SZ)
- 11 Social Democratic Party (SD)
- 12 Coexistence (a coalition of national minorities, ESWMK)
- 13 Hungarian Christian Democratic Movement (MKDH)
- 14 Alliance of Peasants and Countryside (SZV)
- 18 Electoral list of interest associations (VSZS)
- 19 Friends of Beer Party (SPP)
- 20 Freedom Party (SS)
- 21 Czechoslovak Socialist Party (CSS)
- 22 Movement for Civic Freedom (HOS)
- 23 Freedom Block (SB)
- 24 Club of Engaged Non-Party Members (KAN)
- 25 Romani (Rómovia)
- 26 Movement of Czechoslovakian Understanding (HČSP)
- 27 Association for the Republic – Republican Party of Czechoslovakia (SPR-RSC)
- 28 Other party
- 29 Personalities
- 97 I will not vote
- 98 Don't know
- 99 No answer

For more details about the parties that contested the Czechoslovak elections of 1990, and their success among the Czech and Slovak electorates, see Rose and Munro (2009: 87-97).

**Party Systems and Electoral Alignments in East Central Europe Survey, Autumn 1992 module, Czech wave (n=815)**

Q.1: To what extent would you say you are interested in politics? Response options: (1) A great deal, (2) To some extent, (3) Not much, (4) Not at all, (9) Don't know / no answer.

Q.2: On the whole, are you very satisfied, fairly satisfied, not very satisfied, or not at all satisfied with the way democracy works in Czechoslovakia? Response options: (1) Very satisfied, (2) Fairly satisfied, (3) Not very satisfied, (4) Not satisfied at all, (9) Don't know / no answer.

Q.3: When you have a firm/clear opinion on a political question, how often does it happen that you try to convince your friends, relatives or fellow workers about your opinion? Response options: (1) Frequently, (2) Occasionally (sometimes, from time to time, but not rarely), (3) Never, (9) Don't know / no answer.

Q.4: When you get together with your friends, do you discuss political matters frequently, occasionally or never? Response options: (1) frequently, (2) occasionally or sometimes, etc., but not rarely, (3) Never, (9) Don't know / no answer.

Q.5: Did you participate in the Czechoslovak elections of June 1992? Response options: (1) Yes, (2) No, (3) Respondent was not eligible at that time, (9) Don't know / no answer.

Q.12: To the best of your knowledge, which parties are the government parties today? Country specific codes were used. Note, in the Czechoslovakia Q12a records the first mention, Q12b the second, and so on.

Q.13: And which are the Czechoslovak parliamentary opposition parties? Country specific codes were used.

Q.15: How much attention do you feel the Czechoslovak national government pays to what the people think when it decides what to do? Response options: (1) A good deal, (2) Some attention, (3) Not much, or almost nothing, (9) Don't know / no answer.

Q.16: Please tell me how much you agree or disagree with the following statements. Response options: (1) Definitely agree, (2) Rather agree, (3) Rather disagree, and (4) Definitely disagree, (9) Don't know / no answer.

a. In elections in Czechoslovakia voters have a real choice.

b. Generally speaking, those we elect to parliament lose touch with the people pretty quickly.

j. People like me have no say in what government does.

l. Parties are interested only in people's votes not in their opinions.

Q.17 L: I am going to read some political goals. Please, tell me after each, which party or parties in Czechoslovakia you think really wish to reach these goals. You can name a maximum of three parties in each case. Then, I am going to ask you which party you think is the least likely to pursue that goal. Please, consider every party operating in our country, not only those which we talked about earlier.  
T. Achieve a rapid separation of the Czech and Slovak Republics.

Q.18: Now, I would like to ask you how important each of the above political goals are for you personally. Please answer when one of them is very important for you, answer with a '5', and if it is not important for you at all, answer with '1', and so on. Note the statements were the same as those used in the previous question.

Q.20: In political matters, people sometimes talk of left, centre left, centre right, and right. On this scale (SHOW CARD) '1' means left, and '7' means right. Can you place yourself on this scale? If yes, where?

Left						Right	DK/NA
1	2	3	4	5	6	7	9

Q.21: Sometimes people also talk of conservative and liberal. If '1' on the above card means liberal and '7' means conservative, where would you place yourself on this scale? SHOW CARD.

Liberal							Conservative	DK/NA
1	2	3	4	5	6	7		9

**Table A3.1: Inventory of surveys with political knowledge questions fielded in the Czech Republic, 1967–2015**

<i>No.</i>	<i>Survey name</i>	<i>Date</i>	<i>N</i>	<i>Number of items</i>	<i>Notes</i>
1	Images of the World in the Year 2000 Survey	June 1–30, 1967	1167	16	Study of young adults, 15–40 yrs.
2	Independent Survey of Public Opinion (Zdeněk Strmiska and Jiřina Šiklová)	1985–1986	382	15	Non-representative sample
3	Association for Independent Social Analysis (AISA)	Nov. 1990	2548	5	Post-election survey
4	Party Systems and Electoral Alignments in East Central Europe Surveys	Autumn 1992, Spring & Autumn 1993–1995	815, ≈1000	4–8	International survey
5	Czech National Election Study (CNES) fielded by STEM	June 9–19, 1996	1229	3	Post-election survey
6	Civic Education Study (CIVED)	1999	3607	40	Study of high school students
7	Czech National Election Study (CNES) fielded by CVVM	July 21–August 1, 2002	944	6	Post-election survey
8	Eu robarometer	Bi-annually since 2004	≈1000	3	International survey
9	Naše společnost (Our Society) Centre for Public Opinion Research (CVVM)	May 8–25, 2006	2005	9	Pre-election survey
10	Czech National Election Study (CNES) fielded by CVVM	June 9–21, 2006	2002	10	Post-election survey
11	ISSP Role of Government module	Oct. 19 – Nov. 27, 2006	1201	9	International survey
12	Naše společnost (Our Society) Centre for Public Opinion Research (CVVM)	May 12–19, 2008	1066	7	Political attitudes survey for events of 1968 and 1989
13	Naše společnost (Our Society) Centre for Public Opinion Research (CVVM)	July 1–31, 2008	551	6	Panel survey of media use and political attitudes
14	European Election Study (EES)	June 7–27, 2009	1020	7	International post-election survey
15	International Civic and Citizenship Study (ICCS)	2009	4630	40	Study of high school students
16	Czech National Election Study (CNES) fielded by CVVM	July 1–31, 2010	1857	10	Post-election survey
17	Naše společnost (Our Society) Centre for Public Opinion Research (CVVM)	November 5–12, 2012	1267	8	Study of political knowledge
18	Czech Presidential Election Study (CPES) fielded by CVVM	February 2–13, 2013	1060	6	Post-election survey
19	Czech National Election Study (CNES) fielded by CVVM	Oct. 28 – Nov. 11, 2013	1653	10	Post-election survey
20	European Election Study (EES)	May 30 – June 23, 2014	1177	6	International post-election survey
21	CHPS pre-test survey fielded by CVVM*	November 2014	1085	19	Om nibus survey, 5 fact items and 14 visual
22	Czech Household Panel Survey (CHPS), wave 1 fielded by Median and Stem-Mark*	July 7 – November 30 2015	7172	10	Household survey

Source: author

Note that this is a non-exhaustive list of surveys that have included factual political knowledge (quiz) questions in Czechoslovakia / Czech Republics over the last five decades. This listing is an underestimate of the census of knowledge questions asked over the decades. Additional types of knowledge questions relating to science, environment and consumer affairs have been asked by Eurobarometer and other domestic and international organisations. \* These data are not examined in this book as they are the subject of additional research. CHPS wave 1 contains political knowledge items (factual and visual) for adults (18 years or more), youths (15–17 years), and children (10–14 years).

**Table A3.2: Overview of the nature of political knowledge questions fielded in national surveys in the Czech Republic, 1996–2013**

<i>Classification</i>	<i>Percentage</i>
(a) Topic of knowledge items	
Institutional	50
Foreign	33
Public officials	11
Other	6
(b) Form of knowledge questions	
Closed items	85
Open questions	15
(c) Type of knowledge indicator	
General knowledge	79
Names	13
Numerical	8

Source: author

Note these estimates are based on a classification of the content of all political knowledge questions asked in post-elections surveys, and selected inter-election polls, fielded between 1996 and 2013.

**Table A3.3: Socio-demographic profile of political knowledge during the first democratic elections in June 1990**

<i>Socio-demographics</i>	<i>Czechs</i>				<i>Slovaks</i>			
	<i>n</i>	<i>Low</i>	<i>Med</i>	<i>High</i>	<i>n</i>	<i>Low</i>	<i>Med</i>	<i>High</i>
<i>Age cohort:</i>								
15–24 years	226	23	<b>48</b>	<b>29</b>	121	23	36	40
25–34 years	299	<b>14</b>	40	<b>46</b>	158	<b>15</b>	38	47
35–44 years	465	19	41	40	229	19	35	46
45–54 years	222	19	38	43	105	22	35	43
55–64 years	331	24	40	37	157	24	34	42
65 years+	157	25	40	35	55	<b>36</b>	36	<b>27</b>
<i>Sex:</i>								
Male	820	<b>15</b>	<b>38</b>	<b>46</b>	405	<b>18</b>	35	<b>46</b>
Female	884	<b>25</b>	<b>44</b>	<b>32</b>	431	<b>25</b>	36	<b>39</b>
<i>Education:</i>								
Primary	519	<b>34</b>	<b>45</b>	<b>20</b>	283	<b>39</b>	38	<b>23</b>
Lower secondary	657	18	<b>45</b>	38	260	19	41	40
Upper secondary	390	<b>11</b>	37	<b>52</b>	213	<b>8</b>	36	<b>57</b>
Tertiary	137	<b>5</b>	<b>20</b>	<b>75</b>	78	<b>5</b>	<b>14</b>	<b>81</b>
<i>Married:</i>								
Yes	1225	20	41	39	597	20	36	44
No	478	22	41	37	239	26	35	39
<i>Employment status:</i>								
Employed	1321	<b>19</b>	42	39	648	<b>20</b>	<b>38</b>	42
Retired	271	24	39	37	112	<b>33</b>	32	35
Other (not working)	112	24	40	36	76	22	<b>24</b>	<b>54</b>
<i>Occupation:</i>								
Unskilled worker	351	<b>30</b>	46	<b>25</b>	168	<b>29</b>	43	<b>28</b>
Skilled worker	292	<b>14</b>	47	39	124	<b>28</b>	39	<b>33</b>
Routine non manual	270	21	43	36	135	<b>10</b>	41	49
Professional	222	<b>8</b>	<b>34</b>	<b>59</b>	107	<b>10</b>	<b>24</b>	<b>65</b>
<i>TOTAL</i>	<i>1704</i>	<i>20</i>	<i>41</i>	<i>39</i>	<i>836</i>	<i>22</i>	<i>36</i>	<i>42</i>

Source: AISA, post-election survey, November 1990, n=2540

Note that the top horizontal row refers to level of knowledge (i.e. low, med [medium] or high). The political knowledge scale was constructed using an IRT (2PL) model where the resulting scores were divided into three groups: low, medium, and high. Married refers to those who are married or cohabiting versus all others such as single, divorced or widowed. Estimates in bold indicate that the number is statistically significantly greater ( $p \leq .05$ ) than the total estimate given at the bottom of the table. For example, those with the highest levels of political knowledge tended to have tertiary or university level education (75%): a rate higher than that observed in the general population (39%). Conversely, estimates in bold and underlined indicate below average are significantly lower ( $p \leq .05$ ) than the total estimate for the entire sample.

**Table A3.4: Association between political attitudes and party preferences and level of political knowledge in first democratic elections, 1990**

<i>Political attitudes &amp; preferences</i>	<i>Czechs</i>				<i>Slovaks</i>			
	<i>n</i>	<i>Low</i>	<i>Med</i>	<i>High</i>	<i>n</i>	<i>Low</i>	<i>Med</i>	<i>High</i>
<i>Satisfaction with politics:</i>								
Very dissatisfied	168	26	40	34	161	23	35	42
Rather dissatisfied	738	21	41	38	403	20	36	44
Rather satisfied	705	18	42	40	240	24	35	41
Very satisfied	91	20	34	46	30	17	43	40
<i>Political expectations:</i>								
Only change in office holders	258	<b>32</b>	41	<u>28</u>	226	<b>32</b>	35	<b>32</b>
Long phase before democracy	862	<b>18</b>	<b>44</b>	37	387	<b>16</b>	36	<b>48</b>
Steady progress to democracy	548	<u>17</u>	<b>36</b>	<b>47</b>	204	21	35	44
<i>Political efficacy:</i>								
None	1030	<b>23</b>	42	<b>35</b>	559	<b>24</b>	35	41
Little	399	<u>17</u>	42	42	173	18	38	45
Some	271	17	<b>35</b>	<b>48</b>	102	17	36	47
<i>Party choice in June 1990:</i>								
Civic Forum (OF)	936	<b>18</b>	41	41	NA	NA	NA	NA
Public against Violence (VPN)	NA	NA	NA	NA	259	<b>15</b>	<b>42</b>	42
Communist Party (KSC)	138	22	43	35	123	19	28	<b>53</b>
Christian Democratic Movement (KDH)	NA	NA	NA	NA	116	28	40	<b>32</b>
Slovak National Party (SNS)	NA	NA	NA	NA	102	19	33	48
HSD-SMS	154	24	47	<u>29</u>	NA	NA	NA	NA
Green Party (SZ)	70	13	43	44	25	16	36	48
Social Democracy (SD)	73	18	36	47	16	19	<u>6</u>	<b>75</b>
Other parties	267	<b>25</b>	37	38	144	<b>31</b>	34	35
Did not vote	60	27	45	28	51	29	33	37
<b>TOTAL</b>	<b>1704</b>	<b>20</b>	<b>41</b>	<b>39</b>	<b>836</b>	<b>22</b>	<b>36</b>	<b>42</b>

Source: AISA, post-election survey, November 1990, n=2540

Note that HSD-SMS is an acronym for the 'Movement for Self-Governing Democracy – Society for Moravia and Silesia. Estimates in bold indicate that the number is statistically significantly greater ( $p \leq .05$ ) than the total estimate given at the bottom of the table. Conversely, estimates in bold and underlined indicate below average are significantly lower ( $p \leq .05$ ) than the total estimate for the entire sample. See note of table A3.7 for more details.

## Appendix for Chapter 4

**Table A4.1: Level of political knowledge across different regime types, 1967–1970**

<i>Knowledge questions</i>	<i>Response</i>	<i>Czechs</i>	<i>FRG</i>	<i>Spain</i>	<i>Britain</i>	<i>Norway</i>	<i>Netherlands</i>	<i>Finland</i>	<i>Slovenes</i>	<i>Slovaks</i>	<i>Total</i>
Czechoslovakia in WT	Incorrect	1	3	3	26	15	10	13	6	3	8
	DK/NA	2	11	73	24	8	26	37	34	2	29
Denmark in NATO	Correct	97	86	23	50	77	65	50	60	95	63
	Incorrect	33	23	7	21	3	19	20	19	40	19
Finland neutral	DK/NA	35	22	79	21	3	24	33	49	28	37
	Correct	33	55	14	58	94	58	48	33	33	44
France in NATO	Incorrect	1	5	4	13	4	13	2	3	3	5
	DK/NA	47	43	88	64	29	51	37	72	46	57
West Germany in NATO	Correct	52	53	8	23	67	36	61	25	51	37
	Incorrect	28	25	9	20	27	35	20	28	23	22
Italy in NATO	DK/NA	13	10	69	15	7	13	31	35	10	27
	Correct	59	65	21	65	66	52	49	37	68	51
Netherlands in NATO	Incorrect	5	2	4	15	6	5	16	4	6	6
	DK/NA	5	4	72	16	6	13	31	30	5	25
Norway in NATO	Correct	90	94	25	69	88	82	53	66	89	69
	Incorrect	19	6	5	26	32	14	28	3	24	14
Poland in WT	DK/NA	27	12	74	24	10	22	42	32	22	33
	Correct	54	82	21	50	58	64	30	65	54	54
USSR in WT	Incorrect	32	7	4	23	15	2	23	12	40	14
	DK/NA	32	14	77	24	9	10	38	47	31	35
Spain neutral	Correct	36	79	19	53	76	88	39	41	29	52
	Incorrect	39	26	6	26	0	20	12	19	45	20
Sweden neutral	DK/NA	34	26	79	24	2	22	33	50	28	39
	Correct	28	49	14	51	97	58	56	32	27	42
Switzerland neutral	Incorrect	1	1	2	14	10	5	6	3	2	4
	DK/NA	2	6	72	18	7	18	28	27	2	25
USA in NATO	Correct	97	92	26	68	84	78	66	71	97	71
	Incorrect	1	2	4	35	13	9	9	5	1	8
UK in NATO	DK/NA	2	6	70	18	8	16	26	27	2	24
	Correct	97	92	27	47	79	75	66	69	97	68
Yugoslavia neutral	Incorrect	40	31	8	34	30	24	23	36	37	27
	DK/NA	30	30	71	25	13	27	40	44	25	38
Denmark in NATO	Correct	30	40	21	41	57	49	37	20	38	35
	Incorrect	17	23	13	53	15	49	16	21	17	25
France in NATO	DK/NA	26	25	80	22	5	25	29	44	24	37
	Correct	57	53	7	25	80	27	55	35	59	39
Italy in NATO	Incorrect	6	8	6	34	17	23	13	7	9	13
	DK/NA	20	16	78	21	11	21	33	34	17	33
Netherlands in NATO	Correct	74	76	15	46	72	56	54	59	74	54
	Incorrect	6	4	3	7	2	5	8	2	5	4
USSR in WT	DK/NA	9	8	72	12	5	12	31	29	6	26
	Correct	84	88	25	82	93	83	61	70	90	70
Denmark in NATO	Incorrect	6	3	4	11	4	5	10	2	4	5
	DK/NA	5	7	70	12	4	11	30	26	3	24
France in NATO	Correct	89	90	27	77	92	84	60	73	94	71
	Incorrect	18	48	23	58	63	58	43	11	21	38
UK in NATO	DK/NA	19	19	74	25	9	24	36	25	15	33
	Correct	63	33	3	17	28	18	22	64	64	29

Source: Images of the World in the Year 2000 surveys, 1967–1970

Note that national estimates are column percentages that sum to 100% subject to rounding error. WT refers to Warsaw Treaty military alliance members and DK/NA indicates ‘don’t know / no answer’ responses. FRG refers to the Federal Republic of (West) Germany.

## Appendix for Chapter 5

### Dependent variable: national knowledge of military alliance membership

Q30: I am going to read out a list of countries. Can you tell me for each one whether it belongs to NATO, to the Warsaw Treaty, or to neither of these? Response options: (1) NATO, (2) Warsaw Treaty, (3) Neither, (9) Don't know (DK), no answer (NA), Note that the correct answer to each knowledge item plus year of entrance to NATO or the Warsaw Treaty Organisation is indicated below in square parentheses.

Q30a Czechoslovakia [Warsaw Treaty]; Q30b Denmark [NATO, 1949]; Q30c Finland [Neither]; Q30d France [NATO, 1949]; Q30e Federal Republic of Germany [NATO, 1955]; Q30f Italy [NATO, 1949]; Q30g Netherlands [NATO, 1949]; Q30h Norway [NATO, 1949]; Q30i Poland [Warsaw Treaty]; Q30j Soviet Union [Warsaw Treaty]; Q30k Spain [Neither]; Q30l Sweden [Neither]; Q30m Switzerland [Neither]; Q30n United Kingdom [NATO, 1949]; Q30o USA [NATO, 1949]; Q30p Yugoslavia [Neither].

These 16 items were recoded to correct (1). All other non-correct responses were coded as zero. These dichotomous items were then used to estimate a two-part logistic item response theory model (2PL IRT) for each of the 8 countries examined. The latent knowledge scores (or thetas) from this model were subsequently used as the dependent variable in the regression models reported in this and other chapters.

### Interest in politics (scale)

This scale was constructed based on answers to the following three variables / questions:

- V3 / Q1: How much would you say that you think about the future of our country in the year 2000? Response options: (1) very much, (2) Some, (3) A little, (4) Not at all, (9) DK/NA
- V4 / Q2: How much would you say that you think about the future of the whole world in the year 2000? Response options: (1) very much, (2) Some, (3) A little, (4) Not at all, (9) DK/NA
- V6 / Q4: How often would you say that you talk with somebody about the future of your country or the world? Response options: (1) Never, (2) Less than once a month, (3) Once a month, (4) Once a week, (5) More often, (9) DK/NA

The first two variables were reversed and rescaled to 0–1 range so that 0 represents not at all (missing values were also included into this category) and 1 represents very much. The third variable (V6) was also rescaled to 0–1 range when 0 means never (missing values were also included into this category) and 1 means more often than once a week. A summated rating scale was created from these three items (Cronbach's alpha=.76, computed using data from 8 countries). This scale was then adjusted to the standard 0–1 range, where zero (0) implies the lowest interest in politics and '1' the highest interest in politics.

### Policy dissatisfaction (scale)

This scale was constructed based on answers to the following five variables questions that were recoded as follows.

- V154 / Q33: Do the older generation promote domestic progress and development or do they hold back progress and development? Response options: (1) Promote progress, (2) Do not promote progress, (9) DK/NA
- V156 / Q35: Will the younger generation promote domestic progress and development more than the older generation? Response options: (1) More, (2) About the same, (3) They will be worse than the older generation of today, (9) DK/NA
- V157 / Q36: Who do you think has the most realistic view of the world today? Response options: (1) Older generation, (2) Younger generation, (9) DK/NA
- V159 / Q38a: Do you think that you personally have too little, adequate, or too much influence on public affairs in your country? Response options: (1) Too little, (2) Adequate, (3) too much influence, (9) DK/NA [reverse coded]
- V160 / Q38b: Do you think that the younger generation in general has too little, enough, or too much influence on public affairs in your country? Response options: (1) Too little, (2) Enough, (3) Too much influence, (9) DK/NA [reverse coded]

All of these variables / questions were rescaled to have a 0–1 range. The coding of the last two variables (V159 and V160) was also reversed so that code '1' represents the opinion that the respondent has too little influence on public affairs (V159); the younger generation has too little influence on public affairs (V160) whereas code zero (0) represents the opinion that respondent has too much influence on public affairs (V159); and the younger generation has too much influence on public affairs (V160). Missing values were coded as zero (0), i.e. implying policy satisfaction. A summated rating scale was created from these five items (Cronbach's alpha=.54, computed using data from 8 countries). This scale was then adjusted to the standard 0–1 range where 0 implies policy satisfaction and 1 implies policy dissatisfaction.

### **Dogmatism scale (Rokeach)**

The Rokeach dogmatism scale attempted to measure 'pure' authoritarianism, regardless of whether respondents had a left or right-wing orientation. Specifically, this dogmatism scale aimed to measure 'closed mindedness' independently of ideology (Rokeach 1948, 1956, 1960 and 1973). Nonetheless, dogmatism does appear to be linked with political conservatism (Smithers and Lobley 1978). Later, research by Tetlock (1984) found that right-wing beliefs are associated with less sophisticated political views (i.e. cognitive complexity) than their left-wing counterparts. It seems that individuals with moderate liberal attitudes had the most sophisticated cognitions. In the Images of the World in the Year 2000 survey the Rokeach dogmatism scale was constructed using the following fourteen items.

Question wording: Below are a number of statements about different things. We want to know for each statement if you agree or disagree with the statement or if you feel uncertain about it. Response options: (1) Agree, (2) Disagree, (9) DK/NA.

- V130 / Q31a: In the history of mankind there have probably been just a handful of really great thinkers.
- V131 / Q31b: It is only when a person devotes himself to an ideal or a cause that life becomes meaningful.
- V132 / Q31c: Of all the different philosophies which exist in the world there is probably only one which is correct.
- V133 / Q31d: A person who gets enthusiastic about too many causes is likely to be a pretty 'wishy-washy' sort of person.
- V134 / Q31e: To compromise with our opponents is dangerous because it usually leads to the betrayal of our own side.
- V135 / Q31f: The worst crime a person could commit is to attack publicly the people who believe in the same thing he does.
- V136 / Q31g: A group which tolerates too many differences of opinion among its own members cannot exist for long.
- V137 / Q31h: In this complicated world the only way we can know what is going on is to rely on trusted leaders or experts.
- V138 / Q31i: It is often desirable to reserve judgement about what is going on until one has had a chance to hear the opinions of those one respects.
- V139 / Q31j: In the long run the best way to live is to pick friends and associates whose tastes and beliefs are the same as one's own.
- V142 / q31m: The present is all too often full of unhappiness. It is only the future that counts.
- V143 / q31n: It is by returning to our glorious and forgotten past that real social progress can be achieved.
- V144 / q31o: To achieve the happiness of mankind in the future it is sometimes necessary to put up with injustices in the present.
- V145 / q31p: If a man is to accomplish his mission in life it is sometimes necessary to gamble 'all or nothing at all'.

All of these items were rescaled to 0–1 range where agreement with each of these statements was coded as '1' and disagreement was coded as zero (0). The uncertain (2) response option and missing values were coded as 0.5. A summated rating scale was created from these fourteen items (Cronbach's alpha=.72, computed with data from 8 countries). This scale was then adjusted to the standard 0–1 range, where zero (0) implies not being dogmatic (i.e. disagreeing with all fourteen statements) and '1' implies being dogmatic (i.e. agreeing with all fourteen statements).

### **Interpersonal trust – attitudinal (scale)**

This scale was constructed based on answers to the following three items. Question wording: What do you think will be the situation in your country by the year 2000? Response options: (1) More, (2) about as now, (3) less, (9) DK/NA.

- V30 / Q13g: Do you think that people will be more kind or less kind to each other than they are today?
- V33 / Q13j: Do you think that people will be more attached or less attached to their families than they are today?
- V34 / Q13k: Do you think that there will be more divorce or less divorce than there is today?

Response options: (1) more, (2) about as now, (3) less and codes for missing values. These three variables were rescaled to 0–1 range so that response options more kind/more attached were coded as 1 and less kind/less attached were coded as zero (0). Moreover, the scale of the third variable (V34) was also reversed: there will be more divorce by the year 2000 was coded as zero (0), and there will be less divorce was coded as '1'. Missing values were coded as 0. A summated rating scale was created from these three standardized items (Cronbach's alpha = .49; computed from data for 7 countries – the items for this scale were not asked in Britain). This scale was then adjusted to 0–1 range where zero (0) implies attitudes associated with low level of trust whereas 1 implies attitudes associated with high level of trust.

### **Interpersonal trust – structural (scale)**

This scale was constructed based on answers to the following three items.

- V170 / Q47: How many people were there in the household of the family where you grew up?
- V173 / Q50: Were you the only child or did you have older or younger brothers and sisters?
- V179 / Q56: How many people are there in your present household?

All these variables were rescaled to 0–1 range. Variables V170 and V179 are numeric and their original values ranged up to nine (the numeric code 9 represents nine or more people in the household). With variable V173, being the only child was coded as zero (0) and all other responses were coded as '1'. A summated rating scale was created from these three standardized items (Cronbach's alpha = .54; computed using data from 8 countries). This scale was then adjusted to 0–1 range where zero (0) implies a low level of structural interpersonal trust, whereas '1' implies a high level.

### **Trust in the country (scale)**

This scale was constructed based on answers to the following four items. Response options: '1' (i.e. the worst possible present/past/future) to '9' (i.e. the best possible present /past / future).

- V16 / Q11a: Where do you feel that your country is standing at the present time?
- V17 / Q11b: Where would you say it was standing five years ago?
- V18 / Q11c: Where do you think it will be standing five years from now?
- V19 / Q11d: Where do you think it will be standing in the year 2000?

These four items were rescaled to 0–1 range so that 0 represents the worst possible state and 1 represents the best possible state. Missing values were coded as 0. A summated rating scale was created from these four standardized items (Cronbach's alpha = .77; computed using data from 8 countries). This scale was then adjusted to the standard 0–1 range where 0 implies low level of trust in the country and 1 implies high level of trust in the country.

### **Trust in current national leadership (scale)**

This scale was constructed based on answers to the following five items:

- V153 / Q32: 'When you think of the older generation (people older than 50 years) in your country, do you find that they cooperate well with people in other countries?' (1) cooperate well together, (2) do not cooperate well
- V154 / Q33: 'Do the older generation promote domestic progress and development or do they hold back progress and development?' (1) promote progress, (2) do not promote progress [reverse coded]

- V155 / Q34: ‘When the younger generation grow older, do you think, they will cooperate better, about the same, or worse with people in other countries than the older generation?’ (1) better, (2) about the same, (3) worse
- V156 / Q35: ‘The younger generation will promote domestic progress more, about as much or less than the older generation?’ (1) more, (2) about as much, (3) less [reverse coded]
- V157 / Q36: ‘Who do you think has the most realistic view of the world today, the younger generation or the older generation?’ (1) younger generation, (2) older generation [reverse coded]

These items were recoded to standard 0–1 range. The recoding was performed so that the new code ‘1’ would represent the expressed trust in the older generation of national leaders and code zero (0) would represent the opposite condition. Therefore, coding of the following three variables had to be reversed:

- V154 / Q33: (older generation promotes progress coded as ‘1’ and do not promote progress coded as zero (0))
- V156 / Q35: (the younger generation promotes progress about as much or less than older generation coded as ‘1’; the younger generation promoting progress more than older generation coded as zero (0))
- V157 / Q36: (older generation having more realistic view coded as ‘1’ and younger generation having more realistic view coded as zero (0))

Missing values of all items were recoded as zero (0). A summated rating scale was created from these five standardized items (Cronbach’s alpha=.54; computed using data from 8 countries). This scale was then adjusted to the standard 0–1 range where 0 implies low level of trust in current national leadership and 1 implies high level of trust in the current national leadership.

### **Member of a political group**

Question wording: ‘Are you a member of a political organization?’ Response options: (1) no, (2) yes, passive member, (3) yes, active member and codes for missing values. The variable was recoded to 0–1 range so that respondents answering negatively (and missing values) have code zero (0), passive members have code 0.5 and active members are coded as ‘1’.

### **Education**

Question wording: ‘Which is the highest school you have completed?’ Response options: (1) primary, (2) secondary, (3) vocational, (4) grammar (others), (5) university degree and codes for missing values. Due to the differences in the national education systems, this variable was recoded to distinguish only between three education levels: primary or less (including missing values), secondary (secondary, vocational and grammar) and tertiary. As usual, the variable was rescaled to 0–1 range (i.e. 0 - primary or less, 0.5 - secondary, (1) tertiary). The education variable is not available for Britain.

### **Age**

Question wording: ‘What is your age?’ Response options: (1) 15–17 years, (2) 18–20 years, (3) 21–23 years, (4) 24–26 years, (5) 27–29 years, (6) 30–32 years, (7) 33–35 years, (8) 36–38 years, (9) 39–40 years. The variable was rescaled to 0–1 range so that 0 represents being between 15 and 17 years old and 1 represents being 39 or 40 years old. For convenience’ sake, the missing values were coded as 0 (this was only the case of 9 respondents in the whole merged dataset). The age variable is not available for data from the Netherlands.

### **Sex**

The sex of respondent was filled in by the interviewers. Originally, males were coded as ‘1’ and females were coded as ‘2’. After the standardization to 0–1 coding, females are represented by code ‘1’ and men are represented by code zero (0). There were no missing values. The sex variable is not available in the dataset for the Netherlands.

### **Level of religious belief**

Question wording: ‘As to religion, would you call yourself a believer? Do you practice religion?’ Response options: (1) believe and practice, (2) believe, not practice, (3) practice, not believe, (4) neither believe, nor practice and codes for missing values. The variable was rescaled to standard 0–1 range based on the following coding scheme: 0 – neither believe, nor practice (and missing values); 0.33 practice, not believe; 0.66 believe, not practice; and 1.00 believe and practice. The level of religious belief is not available in the Netherlands and West Germany (FRG).

### **Socio-Economic status**

Question wording: 'What is your present occupation (position)?' Response options: (1) student, apprentice; (2) worker, unskilled; (3) worker, skilled; (4) lower white collar; (5) higher white collar; (6) executive, manager, engineer, professional; (7) independent, self-employed; (8) housewife, domestic work; (9) unemployed, retired. For the purpose of regression modelling, two dichotomized variables (worker and student) were created from this socio-economic status variable as follows.

### **Worker**

Unskilled and skilled workers (coded as '1') vs. everybody else (coded as zero)

### **Student**

Students or apprentices (coded as '1') vs. everybody else (coded as zero)

The following two diagnostic tests reveal that the two knowledge models have different problems. These deviations from the assumptions of OLS regression modelling are not so severe as to invalidate the models reported in later chapters.

### **Objective political knowledge model in Table 5.5:**

*Breusch-Pagan / Cook-Weisberg test for heteroscedasticity*

Ho: Constant variance

Variables: fitted values of objective knowledge

$\chi^2(1) = 30.69$ ; Prob >  $\chi^2 = <.001$

*Missing variable bias or model misspecification*

Ramsey Regression Equation Specification Error Test (RESET) test using powers of the fitted values for the objective knowledge variable

Ho: model has no omitted variables

$F(3,1163) = 2.13$ ; Prob > F = .094

### **Subjective political knowledge model in Table 5.5:**

*Breusch-Pagan / Cook-Weisberg test for heteroscedasticity*

Ho: Constant variance

Variables: fitted values of subjective knowledge

$\chi^2(1) = 1.91$ ; Prob >  $\chi^2 = .167$

*Missing variable bias or model misspecification*

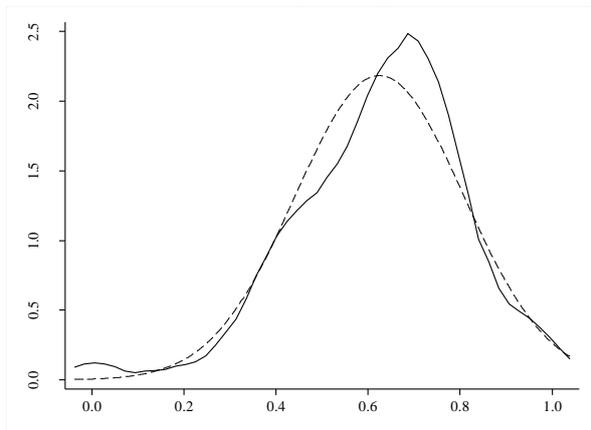
Ramsey Regression Equation Specification Error Test (RESET) test using powers of the fitted values for the subjective knowledge variable

Ho: model has no omitted variables

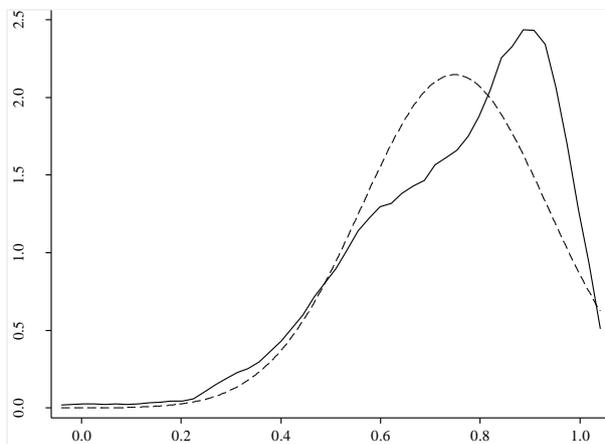
$F(3,1163) = 5.45$ ; Prob > F = .001

**Figure A5.1: Distribution of the knowledge variables**

(a) Distribution of the objective political knowledge among Czechs in June 1967



(b) Distribution of subjective political knowledge among Czechs in June 1967



Source: Images of the World in the Year 2000 Surveys, Czechoslovak wave, June 1967 (n=1187)  
Note these kernel density estimates show how normal (or Gaussian) are the distributions of the two dependent variables used in this chapter. The dotted lines indicate a normal distribution. The objective knowledge (IRT) scale on the left above is reasonably close to being normally distributed. The subjective knowledge based on Exploratory Factor Analysis (EFA) loadings is much more left-skewed with a longer tail of cases with low knowledge estimates.

**Table A5.1: Summary statistics for models of objective and subjective knowledge**

<i>Czechs (n=853)</i>	<i>Mean</i>	<i>SE mean</i>	<i>Median</i>	<i>Std. Dev.</i>	<i>Skewness</i>	<i>Kurtosis</i>
Objective knowledge	.62	.01	.65	.18	-.64	3.98
Subjective knowledge	.75	.01	.77	.18	-.75	3.24
Interest in politics	.44	.01	.43	.25	.16	2.29
Policy dissatisfaction	.70	.01	.67	.19	-.46	2.92
Dogmatism	.59	.01	.61	.18	-.12	2.61
Interpersonal trust (attitude)	.46	.01	.50	.33	.16	1.86
Trust in national leaders	.38	.01	.40	.26	.36	2.52
Educations	.50	<.01	.50	.12	.07	17.43
Age (rescaled 0–1)	.47	.01	.50	.30	.13	1.84
Sex (female)	.49	.02	<.01	.50	.04	1.00
Student	.13	.01	<.01	.34	2.19	5.78
Worker	.54	.02	1.00	.50	-.18	1.03
Member of political group	.25	.01	<.01	.39	1.14	2.60
<i>Slovaks (n=324)</i>	<i>Mean</i>	<i>SE mean</i>	<i>Median</i>	<i>Std. Dev.</i>	<i>Skewness</i>	<i>Kurtosis</i>
Objective knowledge	.63	.01	.65	.18	-.57	3.71
Subjective knowledge	.76	.01	.81	.19	-1.00	3.73
Interest in politics	.51	.01	.50	.23	.05	2.41
Policy dissatisfaction	.64	.01	.67	.19	-.32	2.86
Dogmatism	.58	.01	.57	.19	-.24	2.70
Interpersonal trust (attitude)	.38	.02	.33	.32	.43	2.10
Trust in national leaders	.42	.02	.40	.29	.23	2.30
Educations	.50	<.01	.50	.09	<.01	32.40
Age (rescaled 0–1)	.46	.02	.38	.30	.10	1.89
Sex (female)	.49	.03	<.01	.50	.05	1.00
Student	.15	.02	<.01	.35	2.02	5.06
Worker	.50	.03	.50	.50	<.01	1.00
Member of political group	.22	.02	<.01	.38	1.32	3.01
<i>Czechoslovakia (n=1187)</i>	<i>Mean</i>	<i>SE mean</i>	<i>Median</i>	<i>Std. Dev.</i>	<i>Skewness</i>	<i>Kurtosis</i>
Objective knowledge	.62	.01	.65	.18	-.62	3.90
Subjective knowledge	.75	.01	.78	.19	-.82	3.37
Interest in politics	.46	.01	.44	.25	.11	2.31
Policy dissatisfaction	.68	.01	.67	.19	-.42	2.88
Dogmatism	.58	.01	.57	.18	-.16	2.65
Interpersonal trust (attitude)	.44	.01	.33	.33	.24	1.90
Trust in national leaders	.39	.01	.40	.27	.33	2.46
Educations	.50	<.01	.50	.11	.06	19.97
Age (rescaled 0–1)	.47	.01	.50	.30	.13	1.85
Sex (female)	.49	.01	<.01	.50	.04	1.00
Student	.13	.01	<.01	.34	2.14	5.56
Worker	.53	.01	1.00	.50	-.13	1.02
Member of political group	.24	.01	<.01	.39	1.19	2.70

Source: Images of the World in the Year 2000 Surveys, Czechoslovak wave, June 1967

**Table A5.2: Comparison of models of the key determinants of objectives and subjective political knowledge in Czechoslovakia**

<i>Explanations</i>	<i>Objective</i>		<i>Subjective</i>	
	<i>B</i>	<i>Sig</i>	<i>B</i>	<i>Sig</i>
<i>Motivation:</i>				
Interest in politics	<b>.09</b>	<.001	<b>-.05</b>	.015
Policy dissatisfaction	<b>.19</b>	<.001	.05	.240
Dogmatism	<b>-.07</b>	.007	.01	.709
Interpersonal trust – attitudinal	<b>-.04</b>	.019	.01	.494
Trust in national leadership	<b>.09</b>	.001	<b>.05</b>	.085
<i>Ability:</i>				
Education	.08	.103	<b>-.10</b>	.033
<i>Opportunity:</i>				
Age	<b>.04</b>	.063	-.03	.194
Sex: female=1	<b>-.10</b>	<.001	<b>.02</b>	.053
Student	<.01	.934	-.01	.723
Worker	<b>-.05</b>	<.001	-.01	.648
Member of a political group	<b>.03</b>	.034	<.01	.918
Intercept	.49	<.001	.77	<.001
<i>Model fit:</i>				
R <sup>2</sup>	.17		.02	
Adj. R <sup>2</sup>	.16		.01	
Log likelihood	442		324	
Akaike Information Criterion	-860		624	
Bayesian Information Criterion	-799		-563	

Source: Images of the World in the Year 2000 surveys, Czechoslovak wave, June 1967, n=1187

Note that the two dependent variables, objective and subjective political knowledge, are defined as follows. Objective political knowledge otherwise known as factual or objective knowledge refers to scales derived from the correct answers to questions coded for their factual correctness. Subjective political knowledge also known as cultural consensus knowledge is a scale estimated from the degree to which a respondent's answer to a knowledge question agrees with the answers of all other respondents. The dependent variable is level of objective political knowledge operationalised using a 2 part logistic (Item Response Theory, IRT) model of correct versus all other responses (i.e. incorrect and don't know) for 16 knowledge questions relating to membership of the Warsaw Treaty Organisation, NATO or being non-aligned. Parameters are estimated using ordinary least squares (OLS) with robust standard errors, i.e. Huber-White sandwich estimators. All variables have been rescaled to 0-1 in order to facilitate comparison across variables. To assist comparison across country models all coefficients are unstandardized. This model is the same as that reported in Table 5.5.

## Appendix for Chapter 6

### Evaluation of Candidates' Appearance

The key research question here is the ability of voters to compensate for lack of information when selecting candidates in an election. Comparison is made between voters who could in theory have known lots about the candidates such as their party, policy platform, political experience, etc. and respondents in a survey who only have the candidates' ballot photo on which to make a choice (note, Bull and Hawkes 1982; Ballew II and Todorov 2007; Banducci et al. 2008; Hall et al. 2009; Spezio et al. 2008). If respondents using a facial evaluation are able to predict the winning candidates this implies that many of the voters in the election may have used a similar strategy. In other words, both voters and survey respondents use a visual evaluation to make a political choice in the absence of information or knowledge (Lawson et al. 2011; Lenz and Lawson 2011). The key assumption here is that most voters are uninformed and have low levels of knowledge – a position that matches with the results of previous research (Converse 1964; Carpini and Keeter 1996; Althaus 2003). In fact, a similarly high level or predictive accuracy can be obtained with children suggesting adult voters are making choices indistinguishable from children and political experience is not very important for most voters (Antonakis and Dalgas 2009).

This battery of questions is composed of ten pairs of candidate ballot photographs used in the Irish General Election of February 25 2011. Each of these photos (along with the party logo if appropriate) was available on the ballot paper when citizens cast their vote in the polling booth. Consequently, Czech respondents will examine the same photos as Irish voters. However, Czechs will have no information about the candidates except the visual cues in the photo. The goal is to see how many winning candidates the Czech respondents are able to correctly select. Each pair of candidate photos from the same constituency and contains the photo of the candidate elected first with the most votes and in most cases the last elected candidate typically from a different party. In other words, respondents are presented with photos of candidates and asked to rate them on the basis of perceived competence using a 'facial evaluation' (for a general overview of this research field see, Albohn and Adams Jnr. 2016).

Previous research reveals that perceived competence is the strongest component of candidate evaluation (Todorov et al. 2005: 1625, fn.10; note also valence theory and Clarke et al. 2009; Sanders et al. 2011). Moreover, one experimental study shows voters are able to correctly identify the left-right ideology of an unknown political candidate using only a facial photo (Samochowiec, Wänke and Fiedler 2010; Rule and Ambady 2010). Within psychology the use of simple rules to make choices in the absence of information is called heuristics and the facial evaluation relates to research on 'representativeness' and 'availability' heuristic mechanisms. Use of heuristics has the advantage of being swift, but is also susceptible to making mistakes (Hart et al. 2011; Olivola and Todorov 2010a,b).

### Implicit Knowledge Scale

Note that the question wording below is based on a dichotomised version of Armstrong et al. (2010), see also <http://www.sethjhill.com/faces/facesExample.htm>

Question wording: Now, I would like you to examine on CARDX some photographs that are grouped into 10 pairs labelled A and B. Please imagine for a moment that these are pairs of candidates competing against each other in an election. Although, you have never seen these candidates before and know nothing about them please look at the first pair of photographs for a moment. Then please indicate which candidate you consider to be the most **COMPETENT**. This is not a test of skill or knowledge but an examination of your evaluation of candidate photos. Please answer as honestly and as quickly you can.

Is candidate in photo 1A or 1B the most COMPETENT?

Now, please turn your attention to the next pair of photographs and indicate once again which candidate you consider to be most COMPETENT?

#### *Candidate ballot photo question – Czech version implemented*

Nyní bych Vás poprosil, abyste se pozorně podíval na fotografie na předložených kartách. Fotografie jsou seskupeny do deseti dvojic a každá fotografie je označena buď jako A nebo jako B. Prosím Vás, abyste si představil, že tyto páry představují kandidáty, kteří proti sobě stojí ve volbách. Ačkoli jste

nikdy předtím neviděl tyto kandidáty a nic o nich nevíte, podívejte se nyní na první dvojici. Kterého kandidáta považujete za kompetentnějšího, schopnějšího? Nejedná se o test Vašich schopností či znalostí, pouze o Vaše hodnocení fotografií kandidátů. Prosím, odpovědte na otázky bez velkého rozmýšlení. Je kompetentnější, schopnější kandidát 1A nebo 1B? POKYNY: Nyní se s respondentem věnujte další dvojici fotografií 2A a 2B. Poté pokračujte dalšími dvojicemi až po 10A a 10B.

- (1) Kandidát na fotografii A je kompetentnější, schopnější
- (2) Kandidát na fotografii B je kompetentnější, schopnější
- (7) Odmítl odpovědět
- (9) Neví

Interviewer: Show card 1.

Please ensure that the respondent rates the photos in the correct order, i.e. 1, 2, 3, etc.

<i>Item</i>	<i>Candidate Pairs</i>	<i>Face in <b>Photo A</b> is most competent</i>	<i>Face in <b>Photo B</b> is most competent</i>	<i>DK/NA</i>
1	Candidate Pair: 1AB	1	2	9
2	Candidate Pair: 2AB	1	2	9
3	Candidate Pair: 3AB	1	2	9
4	Candidate Pair: 4AB	1	2	9
5	Candidate Pair: 5AB	1	2	9
6	Candidate Pair: 6AB	1	2	9
7	Candidate Pair: 7AB	1	2	9
8	Candidate Pair: 8AB	1	2	9
9	Candidate Pair: 9AB	1	2	9
10	Candidate Pair: 10AB	1	2	9

CVVM Survey, November 5–12, 2012, n= 1276/1203

Note that the implicit knowledge scale was constructed by counting the number of times the respondent correctly selected the candidate who won most votes in their constituency in the Irish General Election of February 25, 2011. Some respondents (n=64) were excluded from analysis because they refused to answer any of these candidate pair comparison items.

*Top polling candidates in the Irish general election (2011):*

[http://www.fairocraacy.com/general\\_election\\_2011/full\\_list\\_of\\_tds\\_elected\\_to\\_the\\_31st\\_dail.html](http://www.fairocraacy.com/general_election_2011/full_list_of_tds_elected_to_the_31st_dail.html)  
 Accessed (October 25 2012)

*TD photographs & constituency results:*

<http://www.irishtimes.com/indepth/election2011/constituencies/>  
 Accessed (October 25 2012)

**Table A6.1 Information about the candidate used in the ballot photos**

<b>A1</b> No. 3 Brendan Ryan, (Lab) Dublin North Elected 3rd count	<b>B1*</b> No. 1 Dr. James Reilly, (FG) Dublin North Elected 1st count	<b>A2*</b> No. 1 Michael Lowry, (Ind) Tipperary North Elected 1st count	<b>B2</b> No. 3 Alan Kelly, (Lab) Tipperary North Elected 3rd count
<b>A3*</b> No.1 Michael Martin, (FF) Cork South East Elected 1st count	<b>B3</b> No.3 Simon Coveney, (FG) Cork South East Elected 3rd count	<b>A4</b> No. 3 Arthur Spring, (Lab) Kerry North – Limerick West Elected 7th count	<b>B4*</b> No.1 Jimmy Deenihan, (FG) Kerry North – Limerick West Elected 1st count
<b>A5</b> No.3 Seán Kenny, (Lab) Dublin North East Elected 9th count	<b>B5*</b> No.1 Terence Flanagan, (FG) Dublin North East Elected 1st count	<b>A6*</b> No.1 Eamon Gilmore, (Lab) Dún Laoghaire Elected 1st count	<b>B6</b> No.4 Richard Boyd-Barrett, (Ind) Dún Laoghaire Elected 4th count
<b>A7*</b> No.1 Martin Heydon, (FG) Kildare South Elected 1st count	<b>B7</b> No.3 Seán Ó’Feargháil, (FF) Kildare South Elected 7th count	<b>A8*</b> No.1 Caoimhghín Ó Caoláin, (SF) Cavan-Monaghan Elected 1st count	<b>B8</b> No. 2 Brendan Smith, (FF) Cavan-Monaghan Elected 8th count
<b>A9</b> No.4 Gerald Nash, (Lab) Louth Elected 12th count	<b>B9*</b> No.1 Fergus O’Dowd, (FG) Louth Elected 1st count	<b>A10*</b> No.1 Mick Wallace, (Ind) Wexford Elected 1st count	<b>B10</b> No. 2 Dr Liam Twomey, (FG) Wexford Elected 7th count

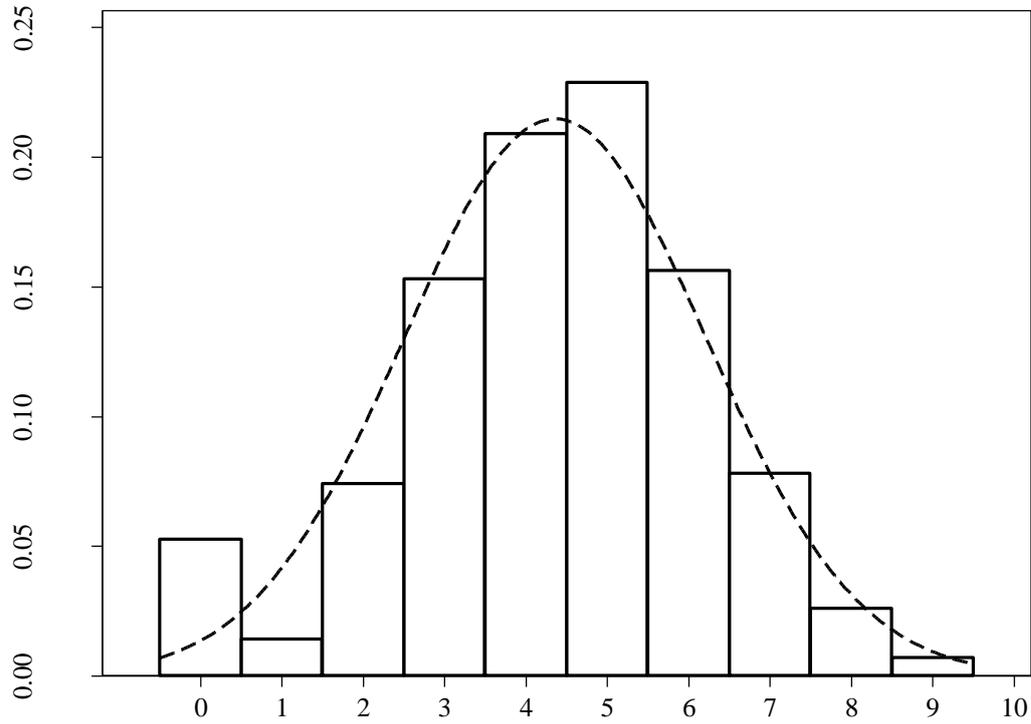
Source: author,

Details of these election results are available online at

<https://electionsireland.org/results/general/31dail.cfm> and in Donnelly (2012).

Note all candidates in the ballot photos were elected to the lower chamber (Dáil) of the Irish parliament in the election of February 25 2011. This table provides information about the candidates shown in Figure 6.1. In the figure above the first row indicates the ten ballot photo pairs, e.g. A5, B5 which refers to the fifth ballot pair; the second rows shows the ranking of the candidate in being elected, i.e. ‘No. 1’ indicates that the candidate was elected first while ‘No. 3’ indicates they were elected third; (3) the third row gives the name of the candidate with the party in parentheses; the fourth row shows the name of constituencies for which the candidates were elected; (5) the fifth row indicates when the candidate was elected during the vote counting process, i.e. during the first count, second count, etc. Ballot options (A or B) with a star (\*) refer to the most successful or first candidate elected with most votes. The party acronyms are FF: Fianna Fáil; FG: Fine Gael; Lab: Labour Party; SF: Sinn Féin; Ind: Independent or non-party candidate.

**Figure A6.1: Distribution of correct answers on the implicit political knowledge scale**



Source: CVVM Survey, November 5–12, 2012, n=1203

Note the implicit political knowledge scale is constructed from a count of correctly selecting the most popular candidate in the ballot photo task described above. A comparison of the distributions of objective, implicit and interpersonal knowledge scales (for the same data set) is presented later in the appendix for Chapter 10.

**Table A6.2: Electoral success of candidates featured in the ballot photos**

<i>Pairs</i>	<i>Option</i>	<i>Candidates</i>	<i>First count vote</i>	<i>Vote difference</i>	<i>Total valid poll</i>	<i>Diff % valid poll</i>	<i>Predictions (%)</i>	<i>Diff between prediction %</i>	<i>Correct Predictions</i>
1	A	Brendan Ryan (Lab)	9,809				41		
	B	<b>Dr. James Reilly, (FG)</b>	10,178	369	49,347	1	52	9	Yes
2	A	<b>Michael Lowry, (Ind)</b>	14,104				53		
	B	Alan Kelly, (Lab)	9,559	4,545	48,273	9	35	18	Yes
3	A	<b>Michael Martin, (FF)</b>	10,715				32		
	B	Simon Coveney, (FG)	9,447	1,268	64,040	2	59	27	No
4	A	Arthur Spring, (Lab)	9,159				46		
	B	<b>Jimmy Deenihan, (FG)</b>	12,304	3,145	45,614	7	44	2	No
5	A	Seán Kenny, (Lab)	4,365				44		
	B	<b>Terence Flanagan, (FG)</b>	12,332	7,967	41,839	19	47	3	Yes
6	A	<b>Eamon Gilmore, (Lab)</b>	11,468				53		
	B	Richard Boyd-Barrett, (Ind)	6,206	5,262	56,676	9	30	23	Yes
7	A	<b>Martin Heydon, (FG)</b>	12,755				53		
	B	Ó'Fearghail, Seán (FF)	4,514	8,241	38,270	22	34	19	Yes
8	A	<b>Caomhghnín Ó Caoláin, (SF)</b>	11,913				61		
	B	Brendan Smith, (FF)	9,702	2,211	71,275	3	27	34	No
9	A	Gerald Nash, (Lab)	8,718				39		
	B	<b>Fergus O'Dowd, (FG)</b>	13,980	5,262	69,319	8	51	12	Yes
10	A	<b>Mick Wallace, (Ind)</b>	13,329				25		
	B	Dr. Liam Twomey, (FG)	9,230	4,099	75,539	5	63	38	No

Source: Official elections results for Irish general election, 2011

Note the party acronyms in parentheses after the candidates' names are FF: Fianna Fáil; FG: Fine Gael; Lab: Labour Party; SF: Sinn Féin; Ind: Independent, non-party candidate. The most popular winning candidates are indicated in a bold font.

## Appendix for Chapter 7

### Czech National Election Studies, 1996–2013

The following variables were used as independent variables in regression modelling of factual political knowledge based on five Czech National Election Studies (i.e. 1996, 2002, 2006, 2010 and 2013):

#### Satisfied with democracy

Question wording: ‘How satisfied are you with the way democracy works in the country?’ Response options: (1) Very satisfied, (2) Rather satisfied, (3) Rather dissatisfied, (4) Very dissatisfied, and other codes representing don’t knows and refusals. The original variable was dichotomized in the merged dataset. The response options ‘very satisfied’ (1) and ‘rather satisfied’ (2) were recoded to ‘1’ (i.e. expressed some level of trust) and all other values (including missing values) were recoded as zero (0).

#### Left-wing orientation

Question wording: ‘Where would you place yourself on this (i.e. ‘left-right’) scale?’; Response options: 11-point scale with answers ranging from ‘0’ (left) to ‘10’ (right) and numerous codes for missing values (e.g. never heard about the left-right scale, don’t know, refused to answer, etc.). The original variable was dichotomized in the merged dataset. The response options ranging from 0–3 were recoded to ‘1’ (i.e. left-wing orientation) and all other values (including missing values) were recoded as zero (0).

#### Right-wing orientation

Question wording: ‘Where would you place yourself on this (i.e. left-right) scale?’ Response options: 11-point scale with answers ranging from ‘0’ (left) to ‘10’ (right) and numerous codes for missing values (e.g. never heard about the left-right scale, don’t know, refused to answer etc.). The original variable was dichotomized in the merged dataset. The response options ranging from 7–10 were recoded to ‘1’ (i.e. right wing orientation), and all other values (including missing values) were recoded as zero (0).

#### Party attachment

Question wording: ‘Do you feel close to any political party?’ Response options: (1) yes, (2) no, and various other codes representing don’t knows, refusals, etc. The variable was recoded so that ‘1’ represents those who answered positively (i.e. having party attachment) and ‘0’ represents all other values (i.e. no and missing values).

#### Party attachment (level)

Level of party attachment was based on answers to three following questions:

1. Do you feel close to any political party? Response options: yes (1), no (2)
2. Do you feel a little closer to one of the political parties than the others? Response options: yes (1), no (2)
3. Do you feel (1) very close to (the mentioned) party, (2) somewhat close, or (3) not very close?

Respondents who answered negatively to the first two questions (or provided missing values) were assigned the lowest level of party attachment (i.e. code ‘0’). Missing values (i.e. refusals and don’t knows) on the third question were coded as feeling not very close on the level of party attachment variable. After recoding and rescaling, values of the final party attachment variable range from 0–1. Code zero (0) represents the lowest level of party attachment (does not at all feel close to any of the political parties) whereas code ‘1’ represents respondents who feel very close to a political party.

#### Government in power matters

Question wording: Some people say it doesn’t make a difference who is in power. Others say that it makes a difference who is in power. Using the scale on this card, (where *one* means that it doesn’t make a difference who is in power and *five* means that it makes a difference who is in power), where would you place yourself?

All codes representing missing values were recoded to the central category (i.e. 3) of the original 5-point scale. The variable was subsequently rescaled to 0–1 range where zero (0) means that it does not matter at all who is in power and ‘1’ means that it matters a lot.

### **Voting matters**

Question wording: Some people say that no matter who people vote for, it won't make any difference to what happens. Others say that who people vote for can make a difference to what happens. Using the scale on this card, (where *one* means that voting won't make a difference to what happens and *five* means that voting can make a difference), where would you place yourself? All codes representing missing values were recoded to the central category (i.e. 3) of the original 5-point scale. The variable was subsequently rescaled to 0–1 range where zero means that voting won't make a difference to what happens and '1' means that voting can make a difference.

### **Attend religious services**

Question wording: How often do you attend religious services? Response options varied across surveys: in some surveys (2006, 2010, 2013), there were 8 response options and in other surveys there were only 6 response options (1996, 2002). Therefore, variables were standardized across all surveys to have just 6 categories ranging from never (6) to at least once a week (1). The standardized variable was subsequently inverted and rescaled to 0–1 range where zero represents never attending religious services (including numerous missing values codes) and '1' represents attending religious services at least once a week.

### **Education level**

Question wording: 'What is your highest level of education?' Response options varied across surveys: in some surveys (2006, 2010, 2013), there were 12 response options and in other surveys there were only 8 response options (1996, 2002). Therefore, variables were standardized across all surveys to have just 4 categories: (1) Primary or lower (including all DK/NA responses), (2) Lower secondary, (3) Upper secondary, and (4) Tertiary education. The standardized variable was subsequently rescaled to 0–1 range where zero represents primary or lower and '1' represents tertiary education.

### **Trade union membership**

Question wording: Are you currently or were you in the past a member of trade unions? (asked in 2006, 2010 and 2013 valid response options) or alternatively 'Are you a member of trade unions?' (asked in 1996 and 2002 valid response options). This variable was dichotomized so that every respondent answering that they were member of trade unions at the time of interview are coded as 1 and everybody else (including missing values and those who had been members of trade unions in the past) is coded as 0.

### **Age of respondent**

Question wording: Could you please tell me in what year you were born? (asked in 2006, 2010, 2013) or 'How old are you?' (asked in 1996 and 2002). For the 2006, 2010 and 2013 datasets, the variable age in years was constructed from year of birth at first. All respondents with missing values were assigned median age (which was computed from valid answers within the each survey). This variable was then rescaled to 0–1 range where zero (0) represents the minimum age within the particular survey (18 years) and '1' represents the maximum age within the particular survey.

### **Non-linear age**

The non-linear version of age is just the squared version of the rescaled age variable (i.e. rescaled age [with imputed missing values] raised to the power of two).

### **Sex**

The sex of respondent was filled in by the interviewers (except for 1996 when respondents were asked directly). Females are represented by code '1' and men are represented by zero (0) together with the very rare situation of missing values.

### **Marital status**

Question wording: 'What is your marital status?' Response options: (1) single, (2) married, (3) divorced, (4) widowed, and other codes representing don't know and refusals (the actual coding of answers differs among original datasets). Two dichotomized variables were created from this marital status variable:

- *Single*: single people coded as '1' vs. everybody else (codes as zero)
- *Married*: married people coded as '1' vs. everybody else (codes as zero)

### **Socio-Economic status**

Question wording: What is your current economic status? or alternatively (in 1996 survey): What is your social status? Response options varied across surveys: in some surveys (2006, 2010, 2013), there were 16 response options and in other surveys there were only 10 response options (1996, 2002). Therefore, variables were standardized across all five surveys to have just 8 categories: (1) Employed, (2) Unemployed, (3) Pensioner, (4) Student, apprentice, (5) Housewife/house husband, (6) Entrepreneur, (7) Disabled, (8) Other, DK/NA. For the purpose of regression modelling, three dichotomized variables were created from this socio-economic status variable:

- *Employed*: employed people (i.e. full-time employees, part-time employees and employed pensioners) coded as '1' vs. everybody else (codes as zero)
- *Self-employed*: self-employed people coded as '1' vs. everybody else (codes as zero)
- *Student*: students coded as '1' vs. everybody else (codes as zero)

The subsequent variables were used as predictor variables (along with some of the above defined) in regression modelling of factual and interpersonal political knowledge based on Czech National Election Study (2006).

### **Occupation**

Question wording: What is (was) your occupation? What kind of job do you have (did you have)? (in 2006, 2010, 2013) or alternatively (in 1996): If you are employed, what is the detailed name of your occupation? These questions were open-ended. The open-responses were coded according to International Standard Classification of Occupations (ISCO-88). To ensure compatibility across surveys, only people employed at the time of interview have valid values on the occupation variable (i.e. last occupations of the retired and the unemployed were not considered because they were not asked in the 1996 post-election survey – these respondents have missing values for the occupation variable). The standardized form of occupation variable is a one-digit ISCO-88 code. For the purpose of regression modelling, four dichotomized variables were created from this standardized variable:

- *Higher professionals*: managers; and professionals (i.e. major groups 1 and 2 from the ISCO-88 classification) coded as '1' vs. everybody else (coded as zero)
- *Lower professionals*: technicians and associate professionals (i.e. major group 3 from the ISCO-88 classification) coded as '1' vs. everybody else (coded as zero)
- *Skilled manual workers*: skilled agricultural, forestry and fishery workers; and craft and related trades workers (i.e. major groups 6 and 7 from the ISCO-88 classification) coded as '1' vs. everybody else (coded as zero)
- *Semi/unskilled workers*: plant and machine operators; and assemblers and elementary occupations (i.e. major groups 8 and 9 from the ISCO-88 classification) coded as '1' vs. everybody else (coded as zero)

### **Community size**

Question wording: What is the size of the community in which you live? Response options varied across surveys: in most surveys (2006, 2010, 2013), there were 8 response options and in the other available survey (2002) there were only 6 response options. Therefore, variables were standardized across all surveys to have just 4 categories: (1) Fewer than 1,999 inhabitants, (2) 2,000 to 4,999 inhabitants, (3) 5,000 to 99,999 inhabitants and (4) More than 100,000 inhabitants. The variable was rescaled to 0–1 range where zero means fewer than 1,999 inhabitants and '1' more than 100,000 inhabitants.

### **Interested in campaign**

Question wording: How closely did you follow the election campaign? (asked in 2006, 2010, 2013) Response options: (1) Very closely, (2) Fairly closely, (3) Not very closely, (4) Not closely at all, (9) DK/NA. The original variable was dichotomized in the merged dataset. The response options (1) 'Very closely' and (2) 'Fairly closely' were recoded to '1' (i.e. followed the election campaign closely) and all other values (including missing values) were recoded as zero (0).

### **Contacted a politician**

Question wording: Over the past 12 months, have you done any of the following things? (Have you contacted a politician, government official or public servant? Response options: (1) Yes, (2) No, (9) DK/NA. For the purpose of regression modelling, the variable was recoded so that code '1' meant that

respondent contacted a politician, and code zero (0) represented everything else (i.e. has not contacted and missing values).

### **Being contacted during campaign**

Question wording: During the election campaign, did a candidate or anyone from a political party contact you on the street? Response options: (1) Yes, (2) No, (9) DK/NA. For the purpose of regression modelling, the variable was recoded so that code '1' indicates a respondent was contacted by a candidate and code zero represents everything else (i.e. not being contacted and missing values).

### **Works in private sector**

Question wording: Are you employed (or were you last employed) in ... ? The variable had 7 valid response options in 2006, 2010 and 2013, and 4 response options in the 1996 post-election survey. Therefore, the variable was standardized to have the following values: (1) Public sector, (2) Private sector, (3) Mixed sector, i.e. public and private, and (4) Non-profit sector or elsewhere. For the purpose of regression modelling, the following dichotomized variable was created: works in private sector (coded as '1') versus works in any other sector was coded as zero.

### **Civic activism scale**

Question wording: There are different ways of trying to improve things in the Czech Republic or help prevent things from going wrong. During the last 12 months, have you done any of the following? Response options: (1) Yes, (2) No, (9) DK/NA.

- Q.27 a: Contacted a politician / public official
- Q.27 b: Worked for a political party
- Q.27 c: Worked in another organisation or association
- Q.27 d: Wore a campaign badge/sticker
- Q.27 e: Signed a petition
- Q.27 f: Participated in a legal public demonstration
- Q.27 g: Boycotted certain products
- Q.27 h: Bought products for political, ethical or environmental reasons
- Q.27 i: Donated money to a party or organisation

All of these variables were dichotomized to the following format: 'yes' (code '1') vs. all other answers (coded zero). A summated rating scale was created from these 9 items (Cronbach's  $\alpha = .69$  in the 2006 survey). This new variable was subsequently rescaled to 0–1 range where zero (0) means that a respondent has not done any of the 9 activist actions (i.e. was completely inactive) and '1' means that the respondent had done all 9 things during the last 12 months.

### **Media use scale**

Respondents who answered that they use the respective media sources (i.e. television, newspapers, radio and the internet) were subsequently asked the following questions (2006 survey variable names):

- Q.6b: On an average week day, how much time do you spend watching TV programmes about politics and current affairs?
- Q.6e: On an average week day, how much time do you spend reading about politics and current affairs in newspapers?
- Q.6h: On an average week day, how much time do you spend listening to programmes about politics and current affairs on the radio?
- Q.6j: On an average week day, how much time do you spend reading about politics and current affairs on the internet?

Response options in 2006: (1) Never, (2) Less than 1 hour, (3) 1 to 2 hours, (4) 2 to 3 hours, (5) 3 to 4 hours, (6) 4 to 5 hours, (7) 5 to 6 hours, (8) More than 6 hours, (9) DK/NA. The response options for 2010 and 2013 were less detailed. For the 2006 'less than 1 hour' per day, and at least half an hour per day for the 2010 and 2013 samples was used as a threshold to dichotomize these items. In other words, all respondents who spent at least some time each day doing these activities were assigned code '1' and all others were coded zero (0). A summated rating scale was created from these 4 dichotomized items (Cronbach's  $\alpha = .44$  in the 2006 survey). This new variable was subsequently rescaled to 0–1 range where zero (0) indicates respondents who deliberately chose not to expose

themselves to politics through media, and '1' indicates that they use the media to get information about politics.

### **Interest in politics**

Question wording: How much are you interested in politics? Response options: (1) Very interested, (2) Quite interested, (3) Only a little interested, (4) Not at all interested, (9) DK/NA. All respondents who refused to answer or did not know the answer were recoded as not being interested in politics. This variable was subsequently reverse coded, and rescaled to 0–1 range where zero (0) represents being not at all interested in politics and '1' stands for being very interested in politics.

### **Trust in institutions scale**

Question wording: Please tell me if you trust ... ? Response options: (1) Strongly trust, (2) Trust somewhat, (3) Distrust somewhat, (4) Strongly distrust, (9) DK/NA.

Q.30a: President of the Czech Republic

Q.30b: Government of the Czech Republic

Q.30c: Chamber of Deputies of the Parliament of the Czech Republic

Q.30d: Senate of the Parliament of the Czech Republic

Q.30e: Regional Assembly

Q.30f: Municipal Assembly

All of these variables were dichotomized to the following format: expressed some level of trust (i.e. answers 'Strongly trust' and 'trust somewhat' were coded as '1') and all other answers (including DK/NA) were coded as zero. A summated rating scale was created from these 6 dichotomized items (Cronbach's  $\alpha = .67$  in the 2006 post-election survey). This new variable was subsequently rescaled to 0–1 range so that zero means not trusting any of the 6 political institutions whereas 1 means expressing trust to all political institutions.

### **Political efficacy scale**

The scale is based on answers to the following four questions:

Q.14: Some people say it doesn't make a difference who is in power. Others say that it makes a difference who is in power. Using the scale on this card, (where *one* means that it doesn't make a difference who is in power and *five* means that it makes a difference who is in power), where would you place yourself?

Q.15: Some people say that no matter who people vote for, it won't make any difference to what happens. Others say that who people vote for can make a difference to what happens. Using the scale on this card, (where *one* means that voting won't make a difference to what happens and *five* means that voting can make a difference), where would you place yourself?

Q.19a: Would you say that any of the political parties represents your views reasonably well?

Q.20a: Regardless of how you feel about the political parties, would you say that any of the individual party leaders at this election represents your views reasonably well?

All of these four variables were standardized at first. Question 14 was dichotomized so that everyone who answered '4' or '5' were assigned the code '1' (i.e. they think who is in power makes a difference) and all other responses were coded as 0 (including missing values). Question 15 was dichotomized so that everyone who answered '4' or '5' was assigned code '1' (i.e. they think voting can make a difference) and all other responses including DK/NA were coded as zero. Questions 19a and 20a were recoded so that everyone who answered 'yes' was assigned code '1' and all other response options were coded as zero. A summated rating scale was created from these 4 items (Cronbach's  $\alpha = .79$  in the 2006 post-election survey). This new variable was subsequently rescaled 0–1 range where zero represents low political efficacy and '1' high political efficacy.

### **Electoral participation**

Question wording (2006): On June 2 and 3 there were Chamber elections. For one reason or another, many people did not vote in these elections. Did you yourself vote in the recent elections? Response options: (1) Yes, (2) No, (3) DK/NA. Respondents claiming that they voted were coded as '1'. All other responses, including DK/NA, were coded as zero.

### **Retrospective economic evaluation**

Question wording: What do you think about the [Czech] economy? Compared twelve months ago, do you think that the general economic situation in this country is ... ? Response options: (1) Much better, (2) A little better, (3) Same, (4) A little worse, (5) A lot worse, (9) DK/NA. All DK/NA answers were recoded to the central category (i.e. 3) of the original 5-point scale. This variable was then rescaled to 0–1 range where 0 means that the state of the Czech economy has gotten much better and 1 means that it has gotten much worse.

### **Prospective economic evaluation**

Question wording: Do you think that next year the economic situation in our country will be ... ? (1) Much better, (2) A little better, (3) Same, (4) A little worse, (5) A lot worse, (9) DK/NA. All answers representing missing values were recoded to the central category (i.e. 3) of the original 5-point scale. This variable was then rescaled to 0–1 range where 0 means that the state of the Czech economy will get much better and 1 means that it will get much worse.

### **Participatory, consumer and protesting activism scales**

These three scales were generated using factor analysis. In the first step, the following 10 items, which measure whether respondents did any of the following things during the 12 months before election, have been dichotomized (yes = code '1' vs. all other answers = code zero (0)). Question wording: There are different ways of trying to improve things in the Czech Republic or help prevent things from going wrong. During the last 12 months, have you done any of the following? Response options: (1) Yes, (2) No, (9) DK/NA.

- Q.27 a: Contacted a politician / public official
- Q.27 b: Worked for a political party
- Q.27 c: Worked in another organisation or association
- Q.27 d: Wore a campaign badge/sticker
- Q.27 e: Signed a petition
- Q.27 f: Participated in a legal public demonstration
- Q.27 g: Boycotted certain products
- Q.27 h: Bought products for political, ethical or environmental reasons
- Q.27 i: Donated money to a party or organisation
- Q.27 j: Participated in illegal protest activities

Principal components analysis was performed on these dichotomized items. Based on the rotated solution (direct oblimin), three factors were extracted (regression method was used for calculating factor scores). The following interpretation was assigned to these three factors:

1. *Partisan activism* (accounting for 27% of variance in the original variables) is highly correlated with 4 original variables: *contacted a politician/public official, worked for a political party, worked in another organisation or association and donated money to a party or organisation*. After rescaling values of this factor to standard 0–1 range, 0 indicates low level of partisan activism (i.e. respondents did none of the above mentioned four activities) whereas 1 indicates high level of partisan activism (i.e. respondents did all four activities).
2. *Consumer activism* (accounting for 12% of variance in the original variables) is highly correlated with 2 original variables: *boycotted certain products and bought products for political, ethical or environmental reasons*. After rescaling values of this factor to standard 0–1 range, 0 indicates high level of consumer activism (i.e. respondents did both of the above mentioned activities) whereas 1 indicates low level of consumer activism (i.e. respondents did neither of these two activities).
3. *Protesting activism* (accounting for 12% of variance in the original variables) is highly correlated with 2 original variables: *participated in a legal public demonstration and participated in illegal protest activities*. After rescaling values of this factor to standard 0–1 range, 0 indicates low level of protesting activism (i.e. respondents did neither of the above mentioned activities) whereas 1 indicates high level of protesting activism (i.e. respondents both activities).

### **Satisfaction with government**

Question wording: Now thinking about the performance of the government, how good or bad a job has the government done over the past four years? Response options: (1) A very good job, (2) A good job, (3) A bad job, (4) A very bad job, (9) DK/NA. The variable was dichotomized so that respondents thinking that were satisfied with government performance (i.e. choosing either (1) 'a very good job' or

(2) 'a good job') were assigned a code of '1' and all others (including don't knows and refusals) was assigned code of zero.

### Subjective living standard of household

Question wording: Do you consider the living standard of your household to be ... ? Response options: (1) Very good, (2) somewhat good, (3) neither good nor bad, (4) Somewhat bad, (5) Very bad, (9) DK/NA. The small numbers of DK/NA responses were recoded to the middle category (i.e. 3) on the original 5-point scale. This variable was subsequently reverse recoded and rescaled to 0–1 range where zero (0) represents a bad subjective evaluation of household living standard while '1' represents a good one.

**Table A7.1: Summary statistics for variables in models estimated for the 1996 to 2013 period**

CVVM June 2006,  $n=2002$

<i>Models</i>	<i>Variables</i>	<i>Mean</i>	<i>Std. Dev.</i>
MOTIVATION	Explicit political knowledge	.53	.24
	Interpersonal political knowledge	.50	.24
	Satisfied with democracy	.46	.50
	Left wing orientation	.21	.41
	Right wing orientation	.31	.46
	Party attachment	.42	.49
	Who is in power matters	.30	.29
ABILITY	Voting matters	.67	.29
	Attend religious services	.16	.28
OPPORTUNITY	Level of education	.45	.31
	Trade union member	.08	.27
	Age, linear	.37	.23
	Age, non-linear	.19	.18
	Sex (female)	.51	.50
	Marital status: single	.24	.43
	Marital status: married	.51	.50
	Employed	.50	.50

Source: CVVM survey, 1996–2013

Note that all variables have a range of 0–1 where the unstandardized coefficients reported may be used to compare across the models reported. Explicit political knowledge is operationalised as a two part IRT model of the responses to a set of political quiz items. Interpersonal political knowledge is an interviewer evaluation of the respondent's awareness of public affairs during the interviewer using a 5-point Likert-type scale.

**Table A7.2: Summary statistics for variables in OMAR models estimated for 2006**

<i>Models</i>	<i>Variables</i>	<i>Mean</i>	<i>Std. Dev.</i>
OPPORTUNITY	Explicit political knowledge	.53	.24
	Interpersonal political knowledge	.50	.24
	Sex (female)	.51	.50
	Marital status: married	.51	.50
	Marital status: single	.20	.40
	Age, linear	.37	.23
	Age, non-linear	.19	.18
	Community size	.48	.32
	Interested in election campaign	.35	.48
	Contacted a politician	.21	.41
	Employed	.50	.50
	Works in private sector	.50	.50
	Civic activism scale	.08	.23
	Media use scale	.42	.39
MOTIVATION	Trade union member	.53	.50
	Interest in politics	.38	.26
	Party attachment	.42	.49
	Trust in institutions scale	.43	.30
	Political efficacy	.54	.38
	Left wing orientation	.21	.41
	Right wing orientation	.31	.46
	Electoral participation	.74	.44
	Satisfied with democracy	.46	.50
	Retrospective economic evaluation	.44	.22
	Prospective economic evaluation	.48	.20
	Participatory activism	.23	.14
	Consumer activism	.72	.19
	Protesting activism	.13	.11
Satisfaction with government	.42	.49	
Who is in power matters	.65	.48	
Voting matters	.61	.49	
Attend religious services	.16	.28	
ABILITY RESOURCES	Level of education	.45	.31
	HH standard of living (subjective)	.46	.22
	Higher professional	.07	.25
	Lower professional	.09	.29
	Self-employed	.09	.29
	Semi- and un-skilled worker	.10	.30
	Skilled manual worker	.08	.27

Source: CVVM survey, June 2006, n=2002

Note that all variables have a range of 0–1 where the unstandardized coefficients reported may be used to compare across the models reported. Explicit political knowledge is operationalised as a two-part logistic IRT model of the responses to a set of political quiz items. Interpersonal political knowledge is based on an interviewer evaluation of the respondent's awareness of public affairs during the interview using a 5-point Likert-type scale.

**Table A7.3: Descriptive statistics for MAO models of the determinants of political knowledge in the combined CNES datasets of 2006, 2010 and 2013**

<i>Explanatory variables</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>N</i>
Interest in politics	.34	.25	5512
Party identification (absolute)	<b>.40</b>	.49	6456
Interpersonal trust scale (Cronbach's alpha=.62)	.42	.30	4803
Who is in power makes a difference	<b>.32</b>	.30	6456
Party voted for in an election makes a difference	<b>.63</b>	.30	6456
Left-wing on self-placement on the left-right scale (codes 0–3 on the original 11-point scale)	<b>.23</b>	.42	6456
Right-wing: self-placement on the left-right scale (codes 7–10 on the original 11-point scale)	<b>.28</b>	.45	6456
Electoral participation – DK and refused coded as non-participation	<b>.71</b>	.45	6456
Satisfaction with democracy	<b>.41</b>	.49	6456
Sex (female)	<b>.51</b>	.50	6456
Married	<b>.50</b>	.50	6456
Lives with a partner	.12	.32	5512
Age (years)	<b>.38</b>	.23	6456
Class: higher professionals	.07	.26	5512
Class: lower professionals	.08	.28	5512
Class: self-employed	.09	.28	5512
Class: semi-skilled or unskilled	.10	.30	5512
Class: skilled manual	.07	.26	5512
Followed election campaign – recode	.32	.47	5512
Attended a political rally or meeting	<b>.15</b>	.28	6456
Employed	<b>.51</b>	.50	6456
Organisational membership scale (Cronbach's alpha=.81)	.05	.18	6456
Education level	<b>.47</b>	.31	6456

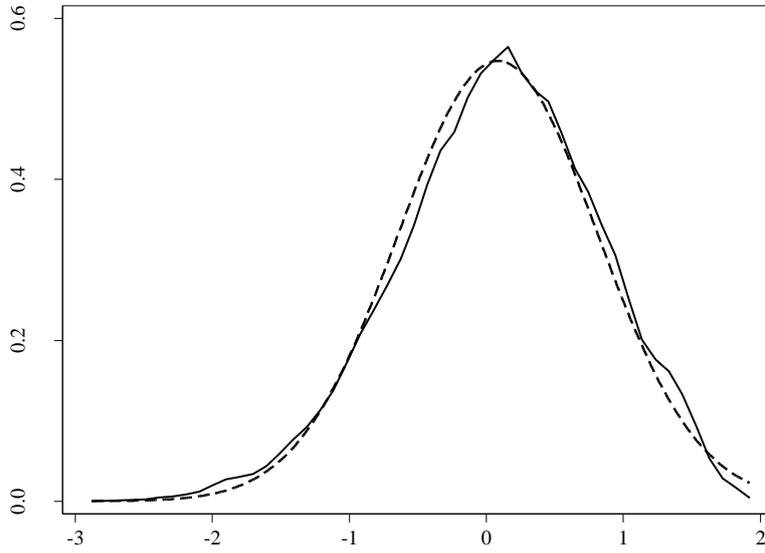
Source: Czech National Election Surveys, 2006, 2010 and 2013

Note estimates in bold refer to explanatory variables that are statistically significant ( $p \leq .05$ ) in the models reported in this chapter.

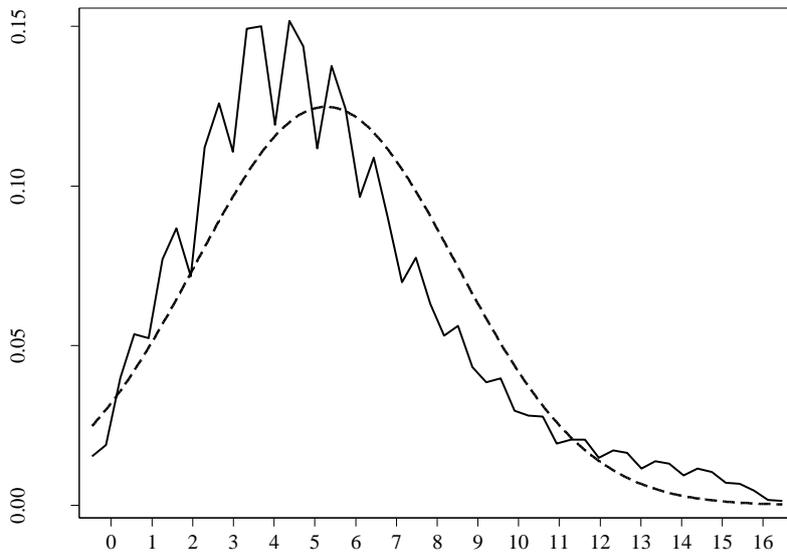
## Appendix for Chapter 8

**Figure A8.1: Distributions of the informed, misinformed and uninformed dependent variables**

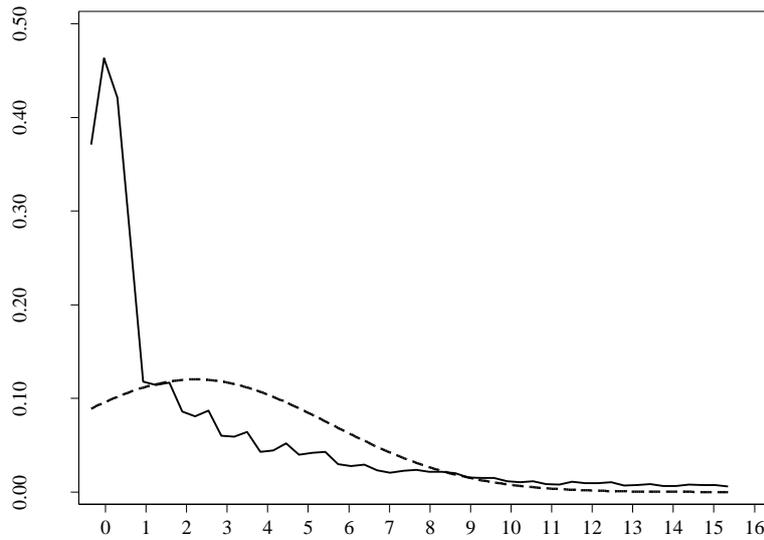
(a) Distribution of correct (informed) answers (IRT 2PL model estimates)



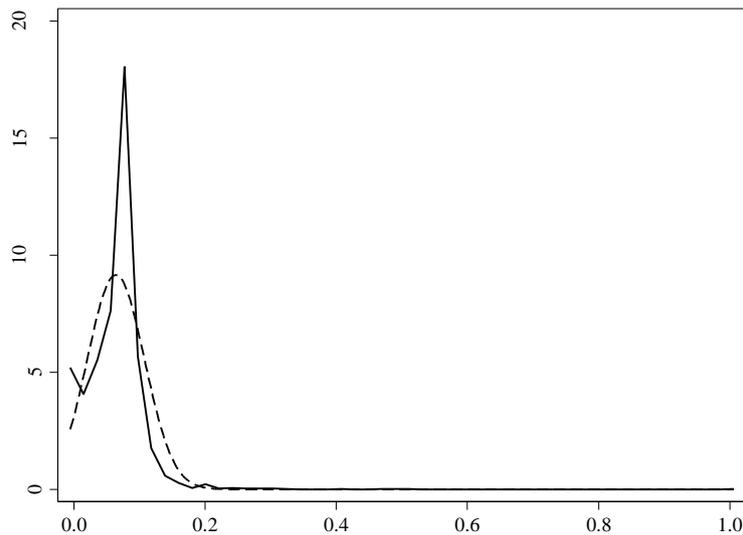
(b) Distribution of incorrect (misinformed) answers (count of responses)



(c) Frequency of DK (uninformed) answers (count of responses)



(d) Frequency of estimated guessing (uninformed) responses (AAGR statistic, see text for details)



Source: Images of the World in the Year 2000 Survey, 1967–1970

Note these figures show that some of the dependent variables have normal (Gaussian) distributions indicating a random ability or process centred on an average value. A little more than one in twenty respondents (i.e.  $n=422/436$  out of 6526 cases or about 7%) refused to answer all 16 of the political knowledge items: 422 gave a DK/NA answers to all items, and 14 respondents got all items incorrect yielding a total of 436 completely incorrect cases. In the analyses reported in this chapter, these groups have been excluded from analysis because it is not clear how to interpret complete non-participation in the political knowledge quiz: it could stem from complete lack of knowledge, disinterest in politics, or lack of cooperation during the survey interview. In the guessing models AAGR estimates are not used but the difference between observed numbers of correct answers minus the adjusted knowledge score for guessing (AAGR) where the difference is assumed to be an approximate estimate of guessing.

**Table A8.1: Summary statistics for the informed, misinformed and uninformed response variables**

<i>Classification</i>	<i>Median</i>	<i>Mean</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>	<i>Skew</i>	<i>Kurtosis</i>
Informed	1.0	0.1	0.7	-2.8	1.8	-0.3	2.9
Misinformed	5.0	5.3	3.2	0	16	-0.9	3.6
Uninformed (DK)	1.0	2.2	3.3	0	15	1.8	6.0
Uninformed (Guessing)	0.2	0.2	0.1	0	0.5	-0.9	3.6

Source: Images of the World in the Year 2000 Survey, 1967–1970, n=6102  
 Note the guessing variable is the AAGR statistic (see text for details).

**Table A8.2: Pairwise correlations between the informed, misinformed and uninformed responses**

<i>Classification</i>	<i>Informed</i>	<i>Misinformed</i>	<i>Uninformed (DK)</i>	<i>Uninformed (Guessing)</i>
Informed	1.0			
Misinformed	-0.8	1.0		
Uninformed (DK)	-0.7	0.8	1.0	
Uninformed (Guessing)	-0.1	0.1	-0.4	1.0

Source: Images of the World in the Year 2000 Survey, 1967–1970, n=6102  
 Note the guessing variable is the AAGR statistic (see text for details).

**Table A8.3: DK response rates for political knowledge questions in the Images of the World in the Year 2000 survey, 1967–1970, percent**

<i>Question</i>	<i>SP</i>	<i>SL</i>	<i>FIN</i>	<i>GB</i>	<i>NL</i>	<i>CR</i>	<i>SK</i>	<i>FRG</i>	<i>NOR</i>	<i>Total</i>
Finland neutral	88	72	37	64	51	47	46	43	29	57
Norway in NATO	79	50	33	24	22	34	28	26	2	39
Spain neutral	71	44	40	25	27	30	25	30	13	38
Denmark in NATO	79	49	33	21	24	35	28	22	3	37
Sweden neutral	80	44	29	22	25	26	24	25	5	37
Netherlands in NATO	77	47	38	24	10	32	31	14	9	35
Italy in NATO	74	32	42	24	22	27	22	12	10	33
Switzerland neutral	78	34	33	21	21	20	17	16	11	33
Yugoslavia neutral	74	25	36	25	24	19	15	19	9	33
CSSR in WT	73	34	37	24	26	2	2	11	8	29
France in NATO	69	35	31	15	13	13	10	10	7	27
UK in NATO	72	29	31	12	12	9	6	8	5	26
FRG in NATO	72	30	31	16	13	5	5	4	6	25
Poland in WT	72	27	28	18	18	2	2	6	7	25
USSR in WT	70	27	26	18	16	2	2	6	8	24
USA in NATO	70	26	30	12	11	5	3	7	4	24
<i>National mean</i>	<i>75</i>	<i>38</i>	<i>33</i>	<i>23</i>	<i>21</i>	<i>19</i>	<i>17</i>	<i>16</i>	<i>9</i>	<i>33</i>

Source: Images of the World in the Year 2000 Survey, 1967–1970

Note these are the percentage reporting ‘don’t know’ (DK) or ‘no answer’ to each the 16 political knowledge items. These data provide evidence of the relative difficulty of the knowledge questions and the extent to which use of DK response option. The country acronyms are Spain (SP), Slovenia (SL), Finland (FIN), Britain (GB), Netherlands (NL), Czech respondents (CR), Slovak respondents (SK), Federal Republic of (West) Germany (FRG) and Norway (NOR). Please also acronyms for national membership of the North Atlantic Treaty Organisation (NATO) and the Warsaw Treaty (WT) Organisation: Czechoslovak Socialist Republic (CSSR), United Kingdom (UK), United Soviet Socialist Republic (USSR) and United States of America (USA).

## Appendix for Chapters 9

### Political Knowledge Scales

#### *Objective political scale (8 items)*

Please see the appendix for Chapter 3 for details.

#### *Interpersonal knowledge scale (interviewer evaluation)*

T.6: How do you assess respondent's awareness about public policy and matters? The response options were: (1) Very high, (2) High, (3) Average, (4) Low, (5) Very low.

#### *Implicit political knowledge scale*

Please see the appendix for Chapter 6 for details.

### Theory of the Ten-Item Personality Inventory (TIPI)

Differences in individual's personalities have systematic effects on political attitudes and behaviour. The Big Five theory of personality emphasises the importance of (1) openness to experience, (2) conscientiousness, (3) extroversion, (4) agreeableness and (5) emotional stability [which is the opposite of neuroticism]. These facets of personality may be measured in a short ten item scale known as TIPI. Mondak (2010) in analysis of surveys including TIPI found that extroverts and introverts do not differ in level of political knowledge, but exhibit differences in level of opinionation (indicated by levels of media use and interpersonal communication). The three other personality traits when they have effects tend to be negatively associated with political knowledge. In other words, conscientious individuals participate less in political discussions and have lower than average levels of political knowledge. Scoring high on the emotional stability and agreeableness scales is associated with low levels of political knowledge and opinionation. In sum, a person exhibiting an open and extrovert personality traits are more interested and knowledgeable about politics while individuals characterised by the traits of conscientiousness, agreeableness and emotional stability are less engaged and knowledgeable. The relationship between personality traits and other facets of political sophistication such as levels of conceptualisation is unknown.

The study of 'personality and politics' is important because it tests the assumption in research on political cognition and information effects that 'information acts as the great equalizer.' Mondak (2010: 21) summarizes this implicit/explicit assumption as follows.

If two individuals live in similar contexts and have similar backgrounds, but they differ in how much political information they hold, we assume that raising the information level of the lesser informed person to equal that of the better-informed person would pull their political attitudes and behaviors into alignment with one another.

This perspective ignores one source of interpersonal differences where some individuals are more willing or motivated to seek out and accept new information more than others: a difference typically denoted by such as personality traits as open- or closed-minded. Long term psychological differences between people, often denoted as personality, may be an important determinant (interaction variable) that links political sophistication with political attitudes and behaviour. One of the most influential and efficient means of measuring personality traits using survey questions is derived from the Big Five (or five factor) personality trait theory. Within this research framework the battery of questions to map out a persons' personality in terms of (1) Openness to experience, (2) Conscientiousness, (3) extroversion, (4) Agreeableness and (5) emotional stability or neuroticism is often examined with a battery of forty or more questions. The smallest Big Five personality scale that has proven to be both valid and reliable is the Ten Item Personality Inventory (TIPI) devised by Gosling et al. (2003). One critical issue in implementing TIPI in the Czech Republic will be the translation of the ten scale terms such as 'sympathetic' etc.

### Style of reasoning questions

There is an important difference between political knowledge (or sophistication) and good judgement. The style of thinking battery of questions explores how individuals go about making choices and the strategies they use to deal with limits in information and knowledge. Tetlock (2005) argues that within political life there are two broad types of cognitive reasoning or thinking: focus on being an expert with specialist knowledge or become a generalist with a wide range of knowledge about many

topics. These two types of thinking are labelled by Tetlock (2005) as ‘hedgehogs’ or ‘foxes’ respectively. The emphasis here is not on how much an individual knows, but how they use information to make decisions. More generally, we may say there is a tension between the consistent and coherent (ideological) systems of thought typical of experts (hedgehogs) and the employment of a wide range of general information by generalists (foxes). Within this survey research it is expected that hedgehogs will have higher levels of education, political knowledge and levels of conceptualisation or political sophistication more generally. In contrast, foxes will be more adept at using heuristics and will have more open and extrovert personalities.

Eight of the items in this scale are taken from Kruglanski and Webster’s (1996) ‘need for closure scale’ and remaining five items come from Tetlock (2005: 72–75, 241). It is likely that there will be an association between responses on the style of reasoning scale with the TIPI personality scale and more especially the openness trait. By using this item it should be possible to compare the style of reasoning of both elites (Legislators in the Chamber of Deputies in 2007–2008, see Lyons 2008) and citizens (CVVM, survey November 2012). One might expect that parliamentarians are more likely to be ‘experts’ and hence hedgehogs than the general population. If this is true, this implies that candidate selection for elections has an important cognitive selection bias emphasising ideological thinking and hence partisan polarisation. In contrast, politicians may be broadly similar to citizens illustrating a general (or fox) approach to issues and problems. As a result, political representation is strongly pragmatic in nature.

Note all of the following questions come from the CVVM survey of November 2012.

### **Kruglanski and Webster’s (1996) ‘need for closure scale’, Cronbach’s alpha=.55**

Q.35: To what extent do you agree or disagree with the following statements? The response options were an 11-point scale ranging from (0) Strongly agree to (10) Strongly disagree, (97) No answer, (99) Don’t know.

- (a) For success in work are essential clear rules and order
- (b) Even if I have already decided on something, I always willing to consider another opinion
- (c) I do not like the questions that can be answered in many different ways
- (d) Important decisions usually do quickly and confidently
- (e) In most conflict situations, I can usually see the truth of both sides
- (f) I do not like it when someone cannot decide

### **Believe the world is complex**

Y.4: With regard to decision-making in general, some people are governed by a single concept of the world, while others improvise and decide on a case by case basis. Where would you place yourself on this scale? Show scale. The response options were an 11-point scale: (0) Decide using a single world view, (10) Improvise and decide case by case, (97) Refused to answer, (99) Don’t know.

### **Believe politics is predictable**

Q.35: To what extent do you agree or disagree with the following statements? The response options were an 11-point scale ranging from (0) Strongly agree to (10) Strongly disagree, (97) No answer, (99) Don’t know.

- (k) I believe that politics is inherently unpredictable.

### **Pragmatic decision making style**

Q.35: To what extent do you agree or disagree with the following statements? The response options were an 11-point scale ranging from (0) Strongly agree to (10) Strongly disagree, (97) No answer, (99) Don’t know.

- (i) When addressing a problem I see many solutions.

### **Interest in politics**

Q.1: How much are interested in politics? Response options: (1) Very interested, (2) Enough interested, (3) A little interested, (4) Not at all interested, (5) Refused to answer, (6) Don’t know.

### **Party attachment**

Q.2a: Do you feel close to a political party? Response options: (1) Yes, (2) No, (3) Refused to answer, (4) Don’t know.

FILTER: Only for those who have not answered ‘yes’ in question q.2a.

Q.2b Do you feel that you are a little closer at one party than the other parties? Response options: (1) Yes, (2) No, (3) Refused to answer, (4) Don’t know.

FILTER: Only for those who answered 'yes' in question q.2a or q.2b.

Q.2c To which party do you feel closest to? Response options: election specific party codes. Refused to answer = 97, Don't know = 99.

FILTER: Only for those who have in question q.2c indicated a political party.

Q.2d Do you feel very close, fairly close, or not too close to this party? Response options: (1) Very close, (2) Quite close, (3) Not close, (4) Refused to answer, (5) Don't know.

### **Who is in power makes a difference?**

Q.14: Some people say it makes a difference who is in power. Others say that it doesn't make a difference who is in power. Using the scale on this card, (where ONE means that it makes a difference who is in power and FIVE means that it doesn't make a difference who is in power), where would you place yourself? The response options were:

1. It makes a difference who is in power
- 2.
- 3.
- 4.
5. It doesn't make a difference who is in power
8. Don't know
9. Refused

### **Voting makes a difference**

Q.15: Some people say that no matter who people vote for, it won't make any difference to what happens. Others say that who people vote for can make a difference to what happens. Using the scale on this card, (where ONE means that voting won't make a difference to what happens and FIVE means that voting can make a difference), where would you place yourself? The response options were:

1. Who people vote for won't make a difference
- 2.
- 3.
- 4.
5. Who people vote for can make a difference
8. Don't know
9. Refused

### **Internal and external political efficacy scales**

Q.39: To what extent do you agree or disagree with the following statements?

- (a) Generally speaking, those we elect to public office lose touch with the people pretty quickly [External]
- (b) Politicians are interested in people's votes not in their opinions [External]
- (c) I feel that I could do as good a job in public office as most other people [Internal]
- (d) I feel that I have a pretty good understanding of the important political issues facing our country [Internal]
- (e) I don't think the government cares much what people like me think [External]
- (f) I consider myself well-qualified to participate in politics [Internal]

Internal political efficacy scale, Cronbach's alpha=.78

External political efficacy scale, Cronbach's alpha=.71

### **Left-right self-placement scale**

Q.22: Where are you ranked yourself on this scale? Response options on the 11-point scale: 0 (left), 10 (Right), 95 Heard of a left-right scale, 97 Refused to answer.

### **Vote in the next general election**

PV.1: Imagine that next week there were elections to the Chamber of Deputies. Would you vote?

Response options: (1) Definitely yes, (2) Rather yes, (3) Rather not, (4) Absolutely not, (8) Not entitled to vote, (9) Do not know.

### **Education**

S.2: What is your highest level of education?

(1) Elementary or less/DK/Other, (2) Secondary without graduation, (3) Secondary with graduation, (4) University or higher.

### **Household income**

IDE.10: What is the usual net monthly income of your entire household, that is, when you add up the income of all household members? If you are unsure, please estimate at least approximate amount.

### **Unemployed**

IDE.5a: What is your occupation? Respondents were shown a card with occupations and asked to indicate which one applied to them. The response options were: (1) Student, (2) Non-working pensioner, (3) Unemployed, (4) Housewife or on maternity leave, (5) Self-employed with 3 or more employees, (6) Self-employed with 1 or 2 employees, (7) Self-employed with no employees, (8) Higher professional, (9) Lower professional, (10) White collar, clerical, (11) Service employee, (12) Skilled worker, (13) Unskilled worker, (14) Labourer or agricultural worker, (15) Leader or manager.

### **Media use, Cronbach's alpha = .63**

Y.3: How often do you (a) Watching television news, (b) Read the news in daily newspapers, (c) Listen to news on the radio? Response options: (1) Every day, (2) Several times a week, (3) Once or twice a week, (4) Rarely, (5) Never, (6) Don't know.

### **Community size (subjective)**

IDE.19: When you look at this card, how would you describe the place where you live? Response options: (1) A large city or town, (2) Suburb of a large city or located in the immediate vicinity of a large town, (3) A medium sized town, (4) A small town, (5) Large village, (6) Small village, hamlet or isolated residence, (7) Other type of residence, (8) Don't know, (9) No answer.

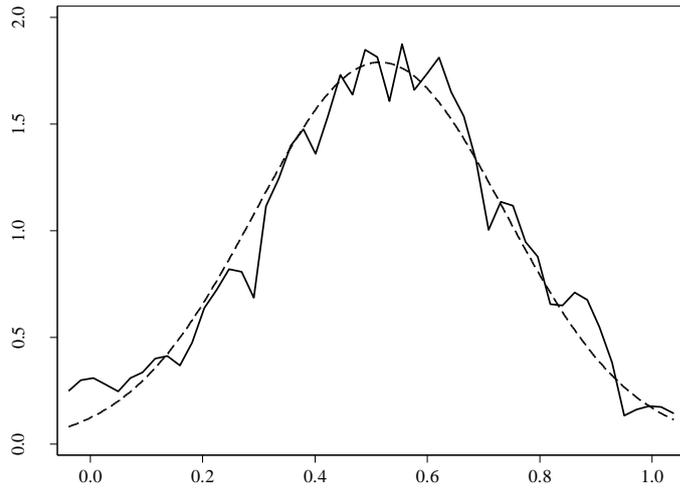
See the appendix for the next chapter for summary statistics for all the dependent and independent variables used in Chapters 9 and 10.

## Appendix for Chapter 10

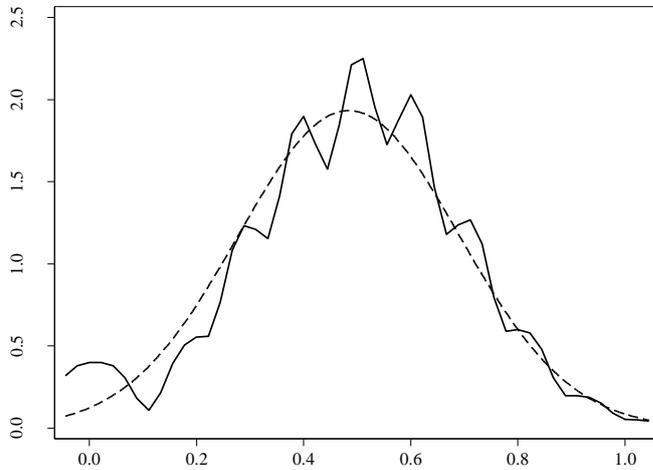
Please note that many of the same survey questions and variables described in the appendix for Chapter 9 have also been used in this chapter.

**Figure A10.1: Profiles of the distribution of the three political knowledge variables examined in this chapter**

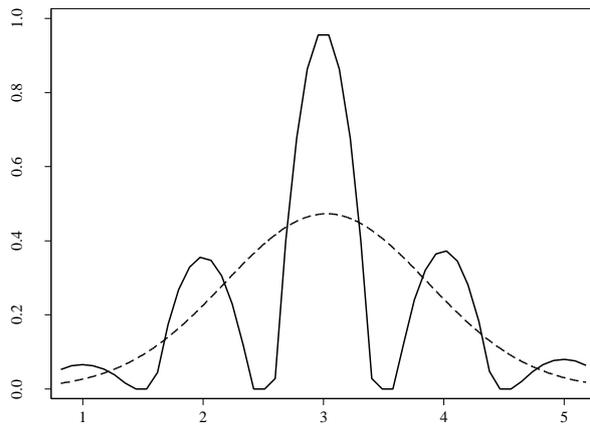
(a) Distribution of objective political knowledge among Czechs in 2012 (IRT 2PL scale)



(b) Distribution of implicit political knowledge among Czechs in 2012 (count scale)



(c) Distribution of interpersonal political knowledge among Czechs in 2012 (5-point interviewer post-interview evaluation scale)



Source: CVVM survey, November 5–12, 2012, n=1203

Note these kernel density estimates show the distributions of the three dependent variables examined in this chapter. The dotted lines indicate a normal distribution.

**Table A10.2: Correlation between the three different types of political knowledge**

<i>Type of political knowledge</i>	<i>Explicit</i>	<i>Implicit</i>	<i>Interpersonal</i>
Explicit	1.000		
Sig. (2-tailed)	( $\leq .001$ )		
Implicit	.037	1.000	
Sig. (2-tailed)	(.194)	( $\leq .001$ )	
Interpersonal	.373	-.029	1.000
Sig. (2-tailed)	( $\leq .001$ )	(.315)	( $\leq .001$ )

Source: CVVM Survey, November 5–12, 2012, n=1203

Note the estimates are Pearson Product Moment Correlations.

**Table A10.3: Summary statistics for variables in models estimated**

<i>Models and variables</i>	<i>Mean</i>	<i>Std. Dev.</i>
<i>Dependent variables</i>		
Explicit knowledge (IRT, 20-point) scale	.52	.22
Implicit knowledge scale (10-point scale)	.51	.18
Interpersonal knowledge rating by interviewer (5-point scale)	.51	.21
<i>Personality traits</i>		
Extroversion (14-point scale)	.51	.22
Agreeableness (14-point scale)	.62	.18
Conscientiousness (14-point scale)	.68	.21
Emotional stability (14-point scale)	.58	.20
Openness to experience (14-point scale)	.64	.19
<i>Style of thinking</i>		
Closed minded scale (Cronbach's alpha=.52)	.31	.24
Believe world is not so complex (5-point scale)	.26	.44
Believe politics is predictable (5-point scale)	.37	.32
Pragmatic decision making style (10-point scale)	.25	.19
<i>Motivation</i>		
Interest in politics (4-point scale)	.61	.23
Party attachment (dichotomous)	.47	.22
Who in power makes a difference (5-point scale)	.54	.50
External political efficacy (Cronbach's alpha=.71)	.55	.25
Internal political efficacy scale (Cronbach's alpha=.80)	.39	.49
Left-right scale (11-point scale)	.18	.39
Electoral participation (dichotomous)	.62	.23
<i>Ability</i>		
Education level	.42	.32
<i>Opportunity</i>		
Sex: female (dichotomous)	.51	.50
Age (linear, 15–91 years)	.39	.23
Age squared (nonlinear)	.20	.19
Income of household (5-point scale)	.40	.25
Unemployed (dichotomous)	.07	.25
Media use scale (Cronbach's alpha=.63)	.56	.23
Community size (5-point scale)	.52	.32

Source: CVVM survey, November 5–12, 2012, n=1267/1203

Note that all variables have a range of 0–1 where the unstandardized coefficients reported may be used to compare across the three models reported. The sample size is reduced because 64 respondents refused to answer the implicit political knowledge (ballo t photo) items. Standard deviation estimates are given in the Std. Dev. column.

## Appendix for Chapter 11

**Figure A11.1: Issue position questions for Czech electorate, 2006**

Now, we would like to know your opinion on particular issues. Where would you place your opinion on the following [0–10 or 11-point] scale? Show the card.		
<i>Agree strongly with the first statement [0]</i>	-1-2-3-4-5-6-7-8-9-	<i>Agree strongly with the second statement [10]</i>
People themselves should be responsible for most of the costs of healthcare, education etc. [0]	-1-2-3-4-5-6-7-8-9-	The state is responsible for the significant part of those costs [10]
All the state – owned enterprises should be privatized [0]	-1-2-3-4-5-6-7-8-9-	A significant part of companies and enterprises should be state-owned [10]
The major priority of governmental economic policy should be the fight against unemployment [0]	-1-2-3-4-5-6-7-8-9-	The major priority of governmental economic policy should be the effort to lower the inflation and the state budget deficit [10]
People with higher income should pay higher tax rate [0]	-1-2-3-4-5-6-7-8-9-	Every body should pay the same tax rate [10]
Immigration laws should be more strict [0]	-1-2-3-4-5-6-7-8-9-	Immigration laws should be less strict [10]
The state should outlaw abortion [0]	-1-2-3-4-5-6-7-8-9-	It's up to a woman to decide about abortion [10]
European integration should be deepened [0]	-1-2-3-4-5-6-7-8-9-	European integration has already gone too far [10]
The church should intervene in politics [0]	-1-2-3-4-5-6-7-8-9-	The church shouldn't intervene in politics [10]
Farmers shouldn't get subventions [0]	-1-2-3-4-5-6-7-8-9-	Farmers should get subventions [10]
The economy performance boosting is a priority to the environmental protection [0]	-1-2-3-4-5-6-7-8-9-	The environmental protection is a priority to the economy performance boosting [10]
People who were in functions during the communism, shouldn't hold a public office [0]	-1-2-3-4-5-6-7-8-9-	All should have the same opportunity to hold public offices [10]
The fight against crime is necessary even if it could limit citizen rights and liberties [0]	-1-2-3-4-5-6-7-8-9-	Fighting against crime is necessary, but citizen rights and liberties must not be limited [10]
The state should financially support families, so they have money enough for having more children [0]	-1-2-3-4-5-6-7-8-9-	The state shouldn't try to influence how many children is a family going to have by any means [10]
The healthcare should be guaranteed by the means of a network of non-commercial hospitals [0]	-1-2-3-4-5-6-7-8-9-	The healthcare should be provided by a competition among private hospitals [10]
The state should regulate rent [0]	-1-2-3-4-5-6-7-8-9-	The state should regulate rent [10]
The state should intervene the economy to ensure it functions well [0]	-1-2-3-4-5-6-7-8-9-	The state should not intervene the economy to ensure it performs well [10]

Source: Czech National Election Study, CVVM, June 8–21, 2006, n=2002, question 29

### **Statistical Simulation of Political Knowledge Effects**

The methodology used to simulate the effects of political knowledge on policy positions is based on a modelling approach originally developed by Delli Carpini and Keeter (1996: 334–336), Bartels (1996: 202–210), and later extended by Althaus (2003: 323–328). All of the dependent variables examined are 11-point (0–10) issue scales. Therefore, it is possible to use ordinary least squares to estimate the parameters of interest. However, logit regression is used instead because this model allows the relationship between level of political knowledge and the explanatory variables to be non-linear in nature.

Moreover, many of the issue scales have very skewed distributions, and therefore are likely to cause problems for estimations that assume normally distributed, linearly related and homoscedastic data. For this reason, all issue scales were recoded to denote a left-right or liberal-conservative orientation the 'extreme' four points on the scale, i.e. 0–3 and 7–10 were coded as being rightist/conservative and given a value of 1 and all other responses were coded as zero. Respondents who refused to give a definite response on the issue scales were excluded from analysis in order to ensure valid inferences.

#### *Collinearity and biased estimates in the simulations*

This situation arises because there is likely to be considerable correlation between the interaction variables and (a) the political knowledge and (b) socio-demographic measures such as age, education, income, etc. Moreover, there are likely to be strong inter-correlations between the independent variables, e.g. high income and living in an urban area. As a result, many of the coefficients have relatively large standard errors thus reducing the number of variables that are able to attain conventional levels of statistical significance. In short, many of the models undoubtedly suffered from collinearity problems.

For example, modelling preferences toward government intervention into the economy minus the political knowledge and associated interaction variables reveals that about one quarter of the independent variables are significant predictors ( $p \leq .10$ ). Moreover, re-estimating the model presented using only the variables that are statistically significant results in no dramatic change in the sign and direction of these key variables. This evidence demonstrates that while many of the coefficients estimated have large standard errors the parameters themselves do not suffer from bias. This result provides reasonable confidence that the simulation results presented are accurate estimates of the relationships being examined.

#### *Omitted variable bias in the simulations*

An equally important concern is the presence of model specification error due to the exclusion of attitudinal variables such as left-right orientation from the model of preferences of government intervention into the economy. However, this is not a problem as the goal of the modelling exercise is not to produce efficient and unbiased estimates of what explains attitudes toward government intervention into the economy among individual citizens. In order to ensure that omitted variable bias is not influencing the political knowledge effects presented a second model was also estimated: here the non-significant variables from the combined model were also included. This had little effect on the highly informed level of support for government intervention into the economy.

Despite these problems the modelling results reported are nonetheless valid as the goal of the approach used in this chapter is to capture differences in policy orientation between (a) different subgroups in Czech society and (b) differences within subgroups. Therefore, it is important to keep in mind that the results presented are not individual-level explanatory models of policy preferences.

**Table A11.1: Examination of the association among correct voting indicators using the Kuder-Richardson coefficient of reliability (KR-20)**

**(a) 2006, 2010 and 2013**

Number of items in the scale = 7

Number of complete observations = 2097

<i>Correct voting indicators</i>	<i>Item difficulty</i>	<i>Item variance</i>	<i>Item-rest correlation</i>
Party identification	.76	.18	.39
Most positive view of party	.67	.22	.55
Most positive view of party leader	.50	.25	.45
Likes the party the most	.97	.03	.21
Likes party leader the most	.91	.08	.27
Highest probability to vote for a party	.99	.01	.21
Closest to party on left-right scale	.77	.18	.24
Mean score	.79	–	.33
KR20 coefficient	.61	–	–

**(b) 2006**

Number of items in the scale = 7

Number of complete observations = 1070

<i>Correct voting indicators</i>	<i>Item difficulty</i>	<i>Item variance</i>	<i>Item-rest correlation</i>
Party identification	.77	.18	.37
Most positive view of party	.67	.22	.56
Most positive view of party leader	.55	.25	.46
Likes the party the most	.97	.02	.19
Likes party leader the most	.94	.06	.24
Highest probability to vote for a party	.98	.02	.24
Closest to party on left-right scale	.79	.17	.25
Mean score	.81	–	.33
KR20 coefficient	.61	–	–

**(c) 2010**

Number of items in the scale = 7

Number of complete observations = 560

<i>Correct voting indicators</i>	<i>Item difficulty</i>	<i>Item variance</i>	<i>Item-rest correlation</i>
Party identification	.76	.18	.38
Most positive view of party	.68	.22	.54
Most positive view of party leader	.46	.25	.40
Likes the party the most	.97	.03	.22
Likes party leader the most	.87	.11	.30
Highest probability to vote for a party	.98	.02	.22
Closest to party on left-right scale	.78	.17	.25
Mean score	.79	–	.33
KR20 coefficient	.61	–	–

**(d) 2013**

Number of items in the scale = 7

Number of complete observations = 467

<i>Correct voting indicators</i>	<i>Item difficulty</i>	<i>Item variance</i>	<i>Item-rest correlation</i>
Party identification	.73	.20	.42
Most positive view of party	.63	.23	.56
Most positive view of party leader	.44	.25	.47
Likes the party the most	.96	.04	.26
Likes party leader the most	.90	.09	.26
Highest probability to vote for a party	.99	.01	.15
Closest to party on left-right scale	.74	.19	.21
Mean score	.77	–	.33
KR20 coefficient	.62	–	–

**Table A11.2: A comparison of probit models of correct voting and turnout for the 2010 lower chamber elections**

<i>All models</i>	<i>Probit model with selection</i>		<i>Correct voting model only</i>		<i>Turnout model only</i>	
	<i>Coef.</i>	<i>P&gt;z</i>	<i>Coef.</i>	<i>P&gt;z</i>	<i>Coef.</i>	<i>P&gt;z</i>
<i>Correct voting model:</i>						
Interest in politics	.07	.729	.87	<.001		
Knowledge (factual)	-.10	.614	.29	.200		
Education level	.01	.965	.15	.292		
Choice in voting makes a difference	.27	.119	1.09	<.001		
Contacted during campaign	.12	.275	.08	.530		
Intercept	-.33	.096	-1.96	<.001		
<i>Voter turnout model:</i>						
Interest in politics	.93	<.001			1.44	<.001
Knowledge	.82	<.001			.73	<.001
Education level	.26	.045			.32	.010
Choice in voting makes a difference	.70	<.001			.69	<.001
Party attachment (level)	1.73	<.001			1.18	<.001
Left-wing orientation	.38	<.001			.32	.002
Right-wing orientation	.65	<.001			.50	<.001
Age (linear effects)	.40	.468			.83	.140
Age squared (nonlinear effects)	-.19	.767			-.71	.298
Female	.21	.002			.23	.002
Married	.12	.125			.17	.031
Intercept	-1.47	<.001			-1.49	<.001
Fisher's z transformation of rho	-1.54	<.001	NA		NA	
Rho	-.91		NA		NA	
Wald test*	95		NA		NA	
Total sample size (n)	1604		1053		1857	
Censored obs. (n)	551		NA		NA	
Uncensored obs. (n)	1053		NA		NA	
Wald chi <sup>2</sup> (5); chi <sup>2</sup> (11)	5		81		396	
Log-pseudo-likelihood	-1215		-584		-814	
Pseudo R <sup>2</sup>	NA		.07		.27	

Source: Czech National Election Survey, 2010, n=1857

Note that all models were estimated with a probit estimator as the dependent variables are (1) voted correctly or not [0/1] and (2) voted in the election or not [0/1]. Data have been weighted to reflect the actual turnout in 2010. NA refers to parameter estimates that are not available due to model specification. Difference in sample sizes between (a) the Heckman probit model with selection and (2) the probit model of turnout reflects pairwise missing cases. This is due to respondents indicating they voted but not which party they supported, level of party attachment, etc. \* Wald test of independent equations (Rho=0): chi<sup>2</sup>(1), p≤.001

**Table A11.3: A comparison of probit models of correct voting and turnout for the 2013 lower chamber elections**

<i>All models</i>	<i>Probit model with selection</i>		<i>Correct voting model only</i>		<i>Turnout model only</i>	
	<i>Coef.</i>	<i>P&gt;z</i>	<i>Coef.</i>	<i>P&gt;z</i>	<i>Coef.</i>	<i>P&gt;z</i>
<i>Correct voting model:</i>						
Interest in politics	-.07	.730	.58	.005		
Knowledge (factual)	.39	.110	.94	<.001		
Education level	-.38	.006	-.35	.022		
Choice in voting makes a difference	.77	.001	1.68	<.001		
Contacted during campaign	.15	.100	.22	.036		
Intercept	-.79	.004	-2.47	<.001		
<i>Voter turnout model:</i>						
Interest in politics	1.28	<.001			1.47	<.001
Knowledge	.81	<.001			1.06	<.001
Education level	.29	.034			.36	.007
Choice in voting makes a difference	.86	<.001			.99	<.001
Party attachment (level)	1.83	<.001			1.25	<.001
Left-wing orientation	.23	.020			.18	.088
Right-wing orientation	.40	<.001			.30	.004
Age (linear effects)	.43	.526			-.20	.770
Age squared (nonlinear effects)	-.13	.872			.61	.466
Female	.05	.488			.08	.304
Married	.27	.001			.28	.001
Intercept	-1.78	<.001			-1.72	<.001
Fisher's z transformation of rho	-1.24	<.001	NA		NA	
Rho	-.85		NA		NA	
Wald test*	57		NA		NA	
Total sample size (n)	1488		949		1653	
Censored obs. (n)	539		NA		NA	
Uncensored obs. (n)	949		NA		NA	
Wald chi <sup>2</sup> (5); chi <sup>2</sup> (11)	21		102		353	
Log-pseudo-likelihood	-1084		-473		-739	
Pseudo R <sup>2</sup>	NA		.11		.30	

Source: Czech National Election Survey, 2013, n=1653

Note that all models were estimated with a probit estimator as the dependent variables are (1) voted correctly or not [0/1] and (2) voted in the election or not [0/1]. Data have been weighted to reflect the actual turnout in 2013. NA refers to parameter estimates that are not available due to model specification. Difference in sample sizes between (a) the Heckman probit model with selection and (2) the probit model of turnout reflects pairwise missing cases. This is due to respondents indicating they voted but not which party they supported, level of party attachment, etc. \* Wald test of independent equations (Rho=0): chi<sup>2</sup>(1), p≤.001

## Appendix for Chapter 12

Details of the questions from the Images of the World in the Year 2000 survey for (a) political knowledge scale and (b) the Motivation-Ability-Opportunity (MAO) indicators have been presented in the appendices of earlier chapters.

### Science forecast scale (7 items)

Q16: We would like to know what you feel about the likely advances in science by the year 2000. Do you feel that ... ? Response options: (1) Yes, (2) Uncertain, (9) DK/NA.

Q16a1 In the year 2000 scientific knowledge will make it possible to decide in advance the sex of one's child?

Q16b1 In the year 2000 scientific knowledge will make it possible to decide in advance the major features of the personality of one's child?

Q16c1 In the year 2000 scientific knowledge will make it possible to cure dangerous diseases like cancer?

Q16d1 In the year 2000 scientific knowledge will make it possible to decide in advance the economic development of a country?

Q16e1 In the year 2000 scientific knowledge will make it possible to organize the world so that there will be no wars?

Q16f1 In the year 2000 scientific knowledge will make it possible to decide in advance what the weather will be like?

Q16g1 In the year 2000 science will make it possible to go to other planets (not including the moon)

### Social anomie forecast scale (18 items)

Question 13: What do you think will be the situation in your country by the year 2000? Do you think that ... ? Response options: (1) More, (2) About as now, (3) Less, (9) DK/NA.

Q13a: People will be more or less happy than they are today?

Q13b: People will be more interested or less interested in inner experiences and inner life than they are today?

Q13c: People will enjoy their work more or less than they do today?

Q13d: People will believe more or believe less in their religion than they do today?

Q13e: People will be more interested or less interested in material things like cars etc. than they are today?

Q13f: People will be more interested or less interested in social success than they are today?

Q13g: People will be more kind or less kind to each other than they are today?

Q13h: People will be more interested or less interested in having really good friends than they are today?

Q13i: There will be more sexual freedom or less sexual freedom for young people than there is today?

Q13j: People will be more attached or less attached to their families than they are today?

Q13k: There will be more divorce or less divorce or marriages than there is today?

Q13l: People will have more leisure or less leisure time than they have today?

Q13m: There will be more unemployment or less unemployment than there is today?

Q13n: People will be more similar or less similar to each other than they are today?

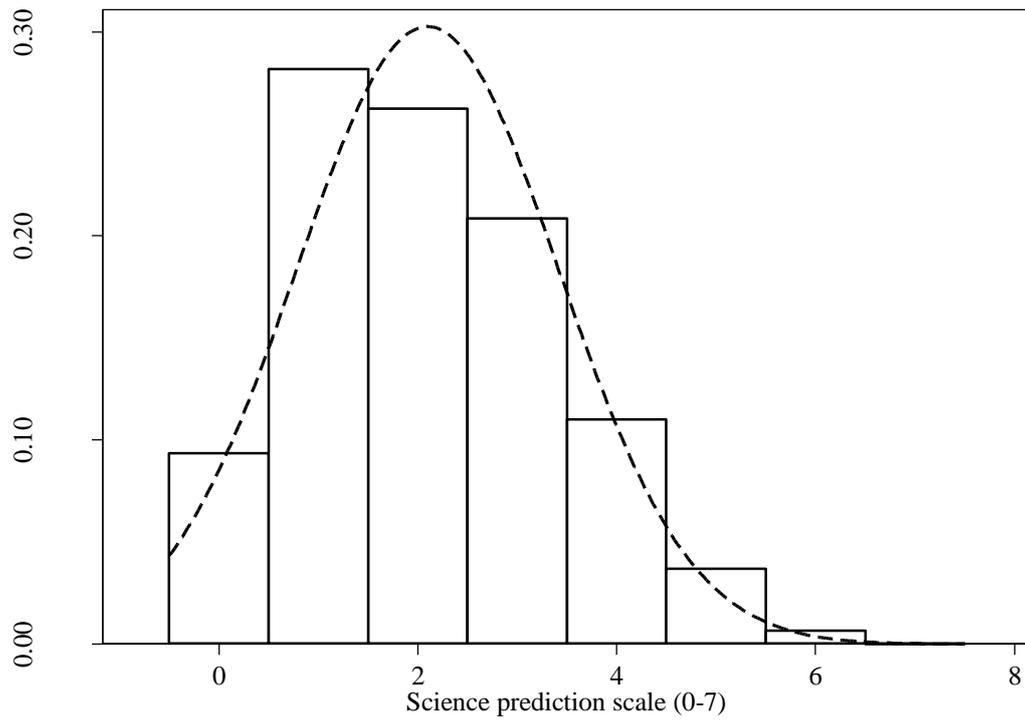
Q13o: There will be more difference or less difference between people high up and people low down in society than there is today?

Q13p: There will be more mental illness or less mental illness than there is today?

Q13q: There will be more use or less use of narcotics and drugs than there is today?

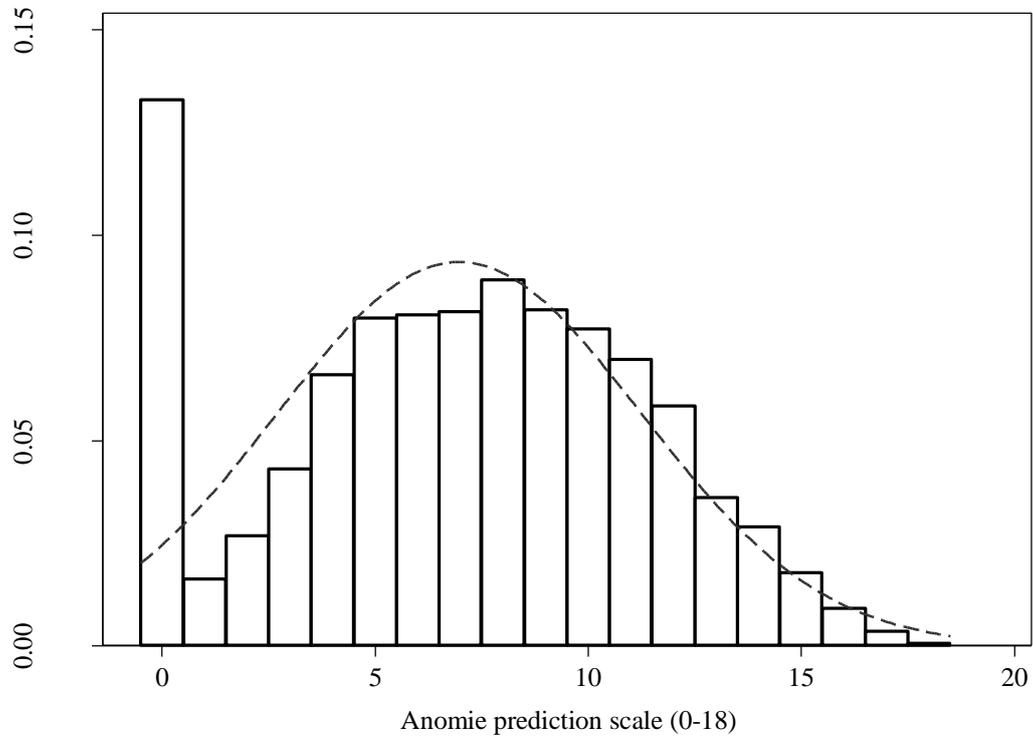
Q13r: There will be more criminality or less criminality than there is today?

**Figure A12.1: Profile of correct predictions of scientific advances by 2000**



Source: Images of the World in the Year 2000 Survey, 1967–1970, question 16

**Figure A12.2: Profile of correct predictions of anomie by 2000**



Source: Images of the World in the Year 2000 Survey, 1967–1970, question 13

**Table A12.1: Correct predictions of scientific developments by 2000 by country?**

<i>Country</i>	<i>Number of correct predictions (%)</i>								<i>Total</i>
	<i>0</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	
Spain	18	38	26	12	4	1	0	0	100
Slovenia	15	35	24	17	7	2	0	0	100
Czechs	12	38	28	14	6	1	0	0	100
Slovaks	8	49	24	10	7	1	0	0	100
Finland	8	25	25	24	12	5	1	0	100
West Germany (FRG)	6	24	28	23	14	5	1	0	100
Norway	5	20	26	24	17	6	1	0	100
Netherlands	3	15	28	33	16	4	1	0	100
Britain	1	14	24	32	19	8	2	0	100
Average for all countries	9	28	26	21	11	4	1	0	100

Source: Image of the World in the Year 2000, 1967-1970, question 16

Note all questions were recoded where a correct forecast was coded as '1' and all other responses as zero. All row percentages sum to 100 percent. These estimates of forecasting success show national profiles where there is no obvious pattern showing that individuals living in communist versus capitalist states were better at predicting.

**Table A12.2: Correct predictions of anomie by 2000 by country, percent**

Item	Country								Total
	CZ	FRG	SPA	NOR	NET	FIN	SLO	SK	
Q13a	17	23	14	42	38	29	28	16	23
Q13b	20	25	22	42	53	27	28	19	27
Q13c	15	25	15	36	66	44	34	23	28
Q13d	78	56	41	59	72	65	49	70	57
Q13e	68	51	80	75	81	75	72	80	69
Q13f	68	40	60	67	64	68	59	72	57
Q13g	26	25	23	40	46	40	42	36	30
Q13h	8	16	13	24	28	16	23	8	16
Q13i	56	60	80	82	81	83	73	63	71
Q13j	40	39	60	52	34	38	49	53	46
Q13k	47	47	67	80	76	70	72	64	61
Q13l	85	69	48	89	90	88	56	79	69
Q13m	24	32	25	44	55	32	61	31	35
Q13n	37	30	63	48	48	53	32	45	44
Q13p	54	24	56	76	62	60	74	59	51
Q13q	47	54	65	86	85	75	75	60	64
Q13r	34	40	46	73	69	49	73	45	49
Mean	43	39	46	60	62	54	53	48	47
Std. Dev.	23	15	23	20	19	21	19	23	18
Median	40	39	48	59	64	53	56	53	49

Source: Images of the World in the Year 2000, 1967–1970, question 13

Note the response options were: (1) more, (2) about as now, (3) less, (4) don't know, no answer. All parts of question 13 were recoded to reflect more anomie in the year 2000. The exact coding scheme for a correct prediction coded as a '1' with all other responses coded as a zero (0) are given below.

Legend for countries:

CZ: Czechs; FRG: West Germany (Federal Republic of Germany); SPA: Spain; NOR: Norway; NET: Netherlands; FIN: Finland; SLO: Slovenia; and SK: Slovakia.

Legend for anomie indicators where the underlined terms indicated the response option coded as a correct forecast and given a value of '1' with all other answers coded as zero.

Q13a: people will be less happy than they are today?

Q13b: people will be less interested in inner experiences and inner life than they are today?

Q13c: people will enjoy their work less than they do today?

Q13d: people will believe less in their religion than they do today?

Q13e: people will be more interested in material things like cars etc. than they are today?

Q13f: people will be more interested in social success than they are today?

Q13g: people will be less kind to each other than they are today?

Q13h: people will be less interested in having really good friends than they are today?

Q13i: there will be more sexual freedom for young people than there is today?

Q13j: people will be less attached to their families than they are today?

Q13k: there will be more divorce than there is today?

Q13l: people will have more leisure time than they have today?

Q13m: there will be more unemployment than there is today?

Q13n: people will be less similar to each other than they are today?

Q13o: there will be more differences between people high up and low down in society?

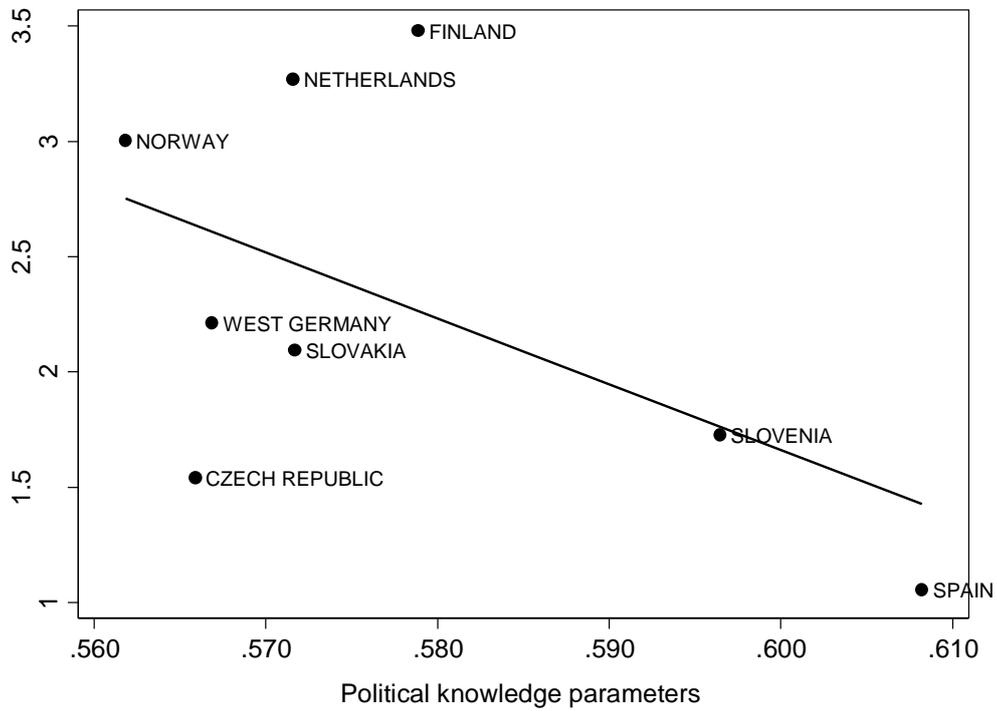
Q13p: there will be more mental illness than there is today?

Q13q: there will be more use of narcotics and drugs than there is today?

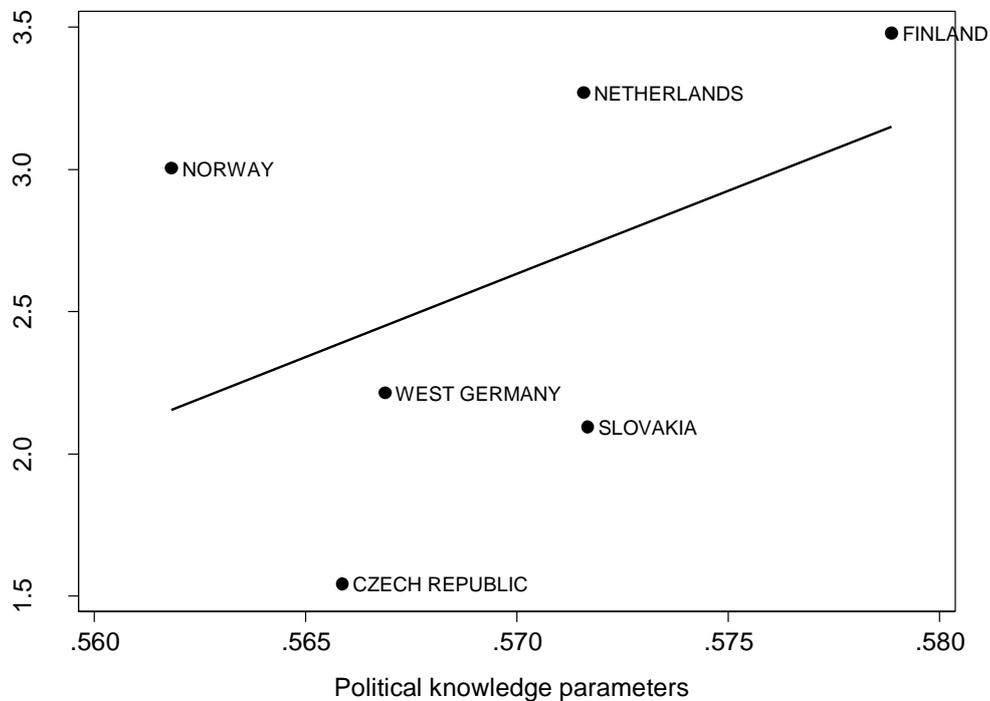
Q13r: there will be more criminality than there is today?

**Figure A12.3: Relationship between level of political knowledge and ability to forecast scientific advances by the year 2000, country-level results**

*(a) All eight countries: negative relationship*



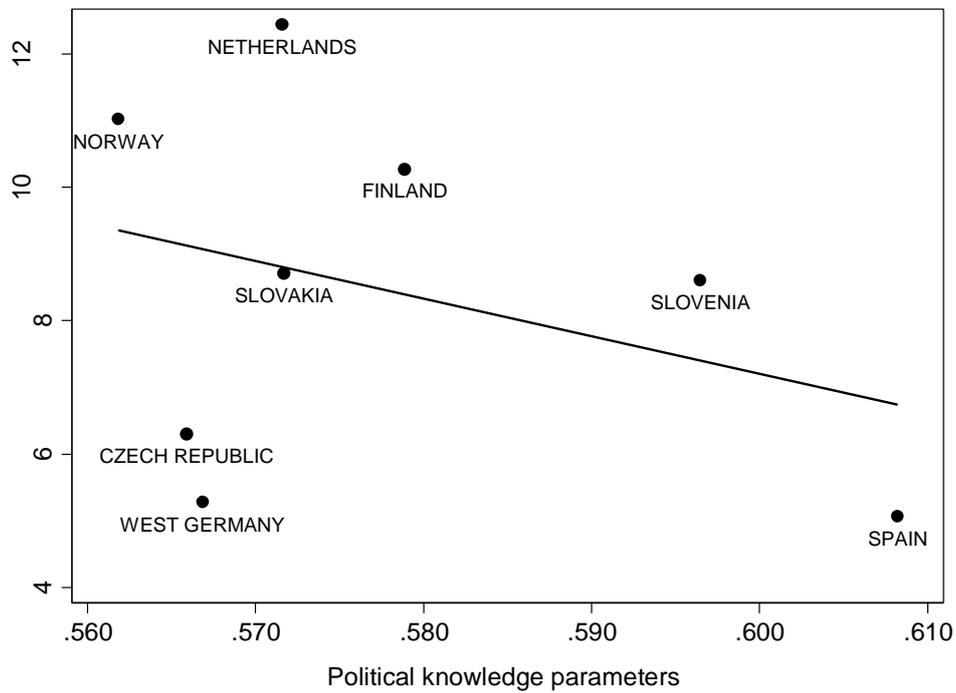
*(b) Excluding Spain and Slovenia: positive relationship*



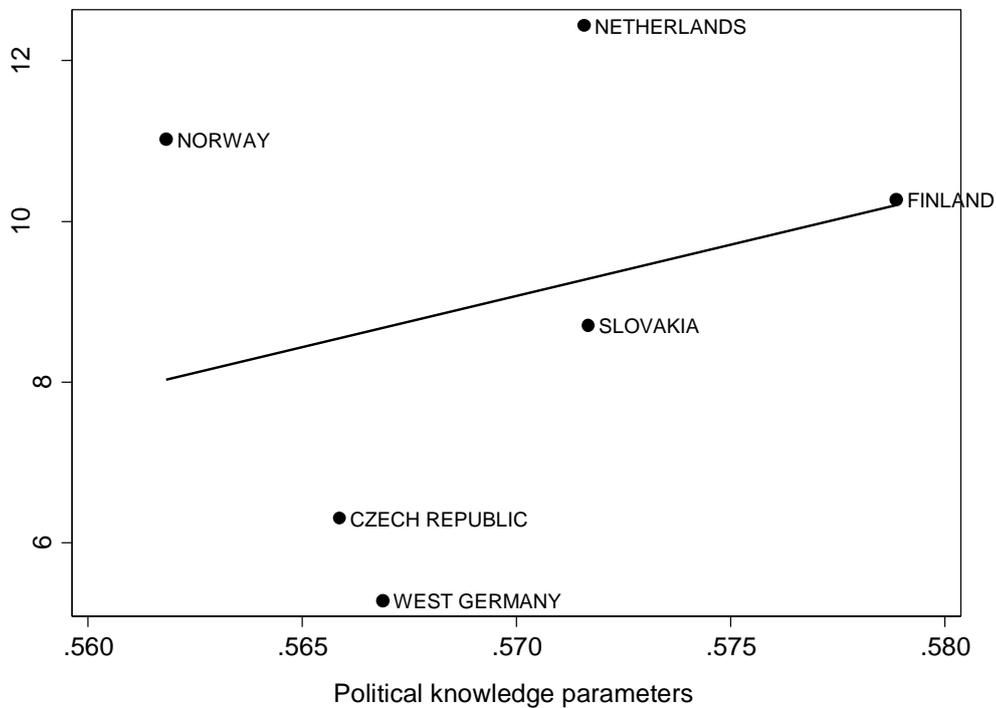
Source: Images of the World in the Year 2000 survey, 1967–1970

**Figure A12.4: Relationship between level of political knowledge and ability to forecast anomie in the year 2000, country-level results**

*(a) All eight countries: negative relationship*



*(b) Excluding Spain and Slovenia: positive relationship*



Source: Images of the World in the Year 2000 survey, 1967–1970

## Appendix for Chapter 13

### The PhilPapers Survey Questionnaire (2009)

The order of the questions and answer options was randomized each time they were presented to respondents. The questions were:

- Q1: A priori knowledge: yes or no?
- Q2: Abstract objects: Platonism or nominalism?
- Q3: Aesthetic value: objective or subjective?
- Q4: Analytic-synthetic distinction: yes or no?
- Q5: Epistemic justification: internalism or externalism?
- Q6: External world: idealism, skepticism, or non-skeptical realism?
- Q7: Free will: compatibilism, libertarianism, or no free will?
- Q8: God: theism or atheism?
- Q9: Knowledge: empiricism or rationalism?
- Q10: Knowledge claims: contextualism, relativism, or invariantism?
- Q11: Laws of nature: Humean or non-Humean?
- Q12: Logic: classical or non-classical?
- Q13: Mental content: internalism or externalism?
- Q14: Meta-ethics: moral realism or moral anti-realism?
- Q15: Metaphilosophy: naturalism or non-naturalism?
- Q16: Mind: physicalism or non-physicalism?
- Q17: Moral judgment: cognitivism or non-cognitivism?
- Q18: Moral motivation: internalism or externalism?
- Q19: Newcomb's problem: one box or two boxes?
- Q20: Normative ethics: deontology, consequentialism, or virtue ethics?
- Q21: Perceptual experience: disjunctivism, qualia theory, representationalism, or sense-datum theory?
- Q22: Personal identity: biological view, psychological view, or further-fact view?
- Q23: Politics: communitarianism, egalitarianism, or libertarianism?
- Q24: Proper names: Fregean or Millian?
- Q25: Science: scientific realism or scientific anti-realism?
- Q26: Tele transporter (new matter): survival or death?
- Q27: Time: A-theory or B-theory?
- Q28: Trolley problem (five straight ahead, one on side track, turn requires switching, what ought one do?): switch or don't switch?
- Q29: Truth: correspondence, deflationary, or epistemic?
- Q30: Zombies: inconceivable, conceivable but not metaphysically possible, or metaphysically possible?

Respondents could 'accept' or 'lean toward' any of the options mentioned in the questions above. They could also choose one of a set of 'other' responses. These additional possible responses were as follows (with minor variations for non-binary questions): (1) Accept both, (2) Reject both, (3) Accept an intermediate view, (4) Accept another alternative, (5) The question is too unclear to answer, (6) There is no fact of the matter, (7) Insufficiently familiar with the issue, (8) Agnostic/undecided, (9) Other, or (10) Skip. A 'Skip' answer was given by skipping the question instead of picking an answer in the answer form.

### The PhilPapers Metasurvey Questionnaire (2009)

In the metasurvey, respondents had to estimate what percentages of respondents in the primary target population would either 'accept' or 'lean' toward any of the main positions mentioned in the survey. For the question on a priori knowledge, for example (Q1 above), respondents had to assign percentages to the following three sets of responses: (1) Accept: yes, Lean toward: yes; (2) Accept: no, Lean toward: no; (3a) Accept both, (3b) Reject both, (3c) Accept an intermediate view, (3d) Accept another alternative, (3e) The question is too unclear to answer, (3f) There is no fact of the matter, (3g) Insufficiently familiar with the issue, (3h) Agnostic/undecided, (3i) Other, and (3j) Skip. Respondents therefore had to specify three percentages for this question. Answer options were randomized wherever they appeared.

### *Background questions*

The philosophers available to choose from for the ‘which philosophers do you identify with?’ question were: Anscombe, Aquinas, Aristotle, Augustine, Berkeley, Carnap, Davidson, Descartes, Frege, Hegel, Heidegger, Hobbes, Hume, Husserl, Kant, Kierkegaard, Leibniz, Lewis, Locke, Marx, Mill, Moore, Nietzsche, Plato, Quine, Rawls, Rousseau, Russell, Socrates, Spinoza, and Wittgenstein. Other philosophers could be selected by entering their names manually. The listed philosophers were largely based on Brian Leiter’s polls concerning the ‘most important’ philosophers in various historical eras. This survey included the top 21 from the all-time list (down to Berkeley) and the remainder of the top 17 from the last 200 years list (down to Husserl and Heidegger). Because the resulting list was all-male, the survey designers added G.E.M. Anscombe (the highest-ranked woman on the last two hundred years list). Regarding the question on philosophical tradition, the two options available by default were ‘analytic’ and ‘continental’. Respondents could enter other traditions manually.

For more details see: <http://philpapers.org/surveys/index.html>

### **Online Questionnaire for the Survey of Czech Economists on Economic Policy, December 2008 to January 15 2009**

#### *Instructions*

This questionnaire can be saved at any stage of progress by pressing the button at the end of the page, and can be retrieved back later anytime until the deadline of *January 15 2009*. Do not leave the survey questionnaire open and idle for more than 30 minutes without saving your responses – they could be lost that way. *The survey is strictly anonymous – the responses CANNOT in any way be associated with the real names of respondents. Moreover, both the sign-up name and the password can be changed [here](#) and the trace after the original sign-up information can thus be entirely eliminated.* Please, always tick just one option – the one that most closely matches your opinion. In part B you state in which direction you would adjust the current form of the given economic policy tool or measure in the Czech Republic, i.e. you propose its desirable form with respect to the current state of it. All questions are couched as recommendations, and thus make a *normative* impression. In case of doubts regarding the normative grounds for economic policy-making, please assume that the goal of economic policy is the welfare of the inhabitants of the Czech Republic *as you personally conceive of it*. In some cases the question really refers to a bundle of several measures (e.g. different types of ‘farm support’) and/or to a measure of a local nature (e.g. rent control). In such cases, please, assume you cannot change the *structure* of such measures, and that you can only change their *average* level.

#### *A. General view*

Q1: Do you think the economic policy reflects in a sufficient way the insights of economic theory and the policy recommendation made by economists (i.e. that they are not systematically distorted by policy)? Response options: (1) yes, (2) no.

#### *B. Particular policy opinions*

Q2: The extent to which trade barriers (tariffs, quotas etc.) are used should be? Response options: (1) higher, (2) unchanged, (3) lower, (4) declined to answer.

Q3: The extent to which antidumping and similar trade-political proceedings against foreign producers are used should be? Response options: (1) higher, (2) unchanged, (3) lower, (4) declined to answer.

Q4: The amount of attention paid by policy-makers to the balance-of-trade deficit should be? Response options: (1) higher, (2) unchanged, (3) lower, (4) declined to answer.

Q5: The size of the budget deficit should be? Response options: (1) higher, (2) unchanged, (3) lower, (4) declined to answer.

Q6: The size of the government expenditures should be? Response options: (1) higher, (2) unchanged, (3) lower, (4) declined to answer.

Q7: The marginal rate of the income tax should be? Response options: (1) higher, (2) unchanged, (3) lower, (4) declined to answer.

Q8: The size of the total tax burden should be? Response options: (1) higher, (2) unchanged, (3) lower, (4) declined to answer.

Q9: The rate of the money supply growth should be? Response options: (1) higher, (2) unchanged, (3) lower, (4) declined to answer.

- Q10: The level of the inflation target set by the central bank should be? Response options: (1) higher, (2) unchanged, (3) lower, (4) declined to answer.
- Q11: The extent to which environmental regulation is used should be? Response options: (1) higher, (2) unchanged, (3) lower, (4) declined to answer.
- Q12: The extent to which regulation is used to protect consumers should be? Response options: (1) higher, (2) unchanged, (3) lower, (4) declined to answer.
- Q13: The extent to which the anti-trust authority interferes with the economy should be? Response options: (1) higher, (2) unchanged, (3) lower, (4) declined to answer.
- Q14: The difficulty with which employees can be laid off should be? Response options: (1) higher, (2) unchanged, (3) lower, (4) declined to answer.
- Q15: The legislated power of the labour unions should be? Response options: (1) higher, (2) unchanged, (3) lower, (4) declined to answer.
- Q16: The extent to which trade with illicit drugs is regulated should be? Response options: (1) higher, (2) unchanged, (3) lower, (4) declined to answer.
- Q17: The extent to which trade with human organs is regulated should be? Response options: (1) higher, (2) unchanged, (3) lower, (4) declined to answer.
- Q18: The level of legislated minimum wage should be? Response options: (1) higher, (2) unchanged, (3) lower, (4) declined to answer.
- Q19: The legislated maximum rent that can be charged for apartments should be? Response options: (1) higher, (2) unchanged, (3) lower, (4) declined to answer.
- Q20: The extent to which farming is subsidized by government should be? Response options: (1) higher, (2) unchanged, (3) lower, (4) declined to answer.
- Q21: The extent to which university students share the cost of university education should be? Response options: (1) higher, (2) unchanged, (3) lower, (4) declined to answer.
- Q22: The extent to which investment perks are used should be? Response options: (1) higher, (2) unchanged, (3) lower, (4) declined to answer.

### *C. Respondent information*

- Q23: Age? Response options: (1) 25 years or below, (2) 26 to 35 years, (3) 36 to 45 years, (4) 46 to 55 years, (5) 56 to 65 years, (6) 66 years or more, (7) declined to answer
- Q24: Sex? Response options: (1) male, (2) female, (3) declined to answer
- Q25: What sort of economist do you conceive yourself of? Response options: (1) academic, (2) private sector, (3) government, (4) avocation, (5) other, (6) declined to answer
- Q25a: Verbatim response for Q25, option 5
- Q26: Gross income? Response options: (1) 250 CZK or less, (2) 250 to 500 CZK, (3) 500 to 750 CZK, (4) over 750 CZK, (5) declined to answer
- Q27: Which political party's program is closest to your vision of economic policy? Response options: (1) ČSSD (social democratic), (2) KDU-ČSL (Christian conservative), (3) KSČM (communist), (4) ODS (civic conservative), (5) SZ (environmental), (6) other, (7) declined to answer
- Q27a: Verbatim response for Q27, option 6

## **Czech Expert Survey of Party Policy Positions, November 2013 to January 2014**

This expert survey fielded 38 scales; the majority replicate the Laver and Benoit (2006) questions. This web-based survey was implemented using the open-source LimeSurvey software, and so it was possible to also measure the times of responses because this might be useful for evaluating data quality, and timing responses did not involve any additional burden on the respondents. For the expert survey, the response rate was about 25% for fully completed questionnaires, and about 44% for incomplete questionnaires. The expert respondents were sent three email reminders during late November–December 2013, and January 2014.

As an informal experiment, we also fielded the same survey to non-experts or citizens interested in politics using social networks (Facebook) and the Institute of Sociology's website (<http://www.soc.cas.cz/>) to recruit respondents. This was a completely separate survey and did not interfere in any way with the main study. The main purpose of this informal research was to see if the experts' scores are significantly different of 'well-informed' (non-academic) citizens. This survey research revealed that many non-experts started the online survey relative few completed it – the completion rate was about 11%. In contrast, the completion rate for experts was about 25%. This differential suggests that experts have more 'patience' in completing a set of party policy items that took about 30 minutes to finish.

Each data file contains both complete and incomplete questionnaires. There is a variable labelled 'complete' which facilitates selecting only those respondents who answered all questions. In the combined 'expert' and 'non-expert' there is also a variable who were the different type of respondents. All timing variable data is in seconds, and represents the LimeSurvey software measurements of how long it took a respondent to complete a position or importance question for all 8 parties. In this survey, this duration represented the opening and closing of a specific webpage. There are thus 38 timing variables: one for each scale.

### **Czech Expert Survey of Party Policy Positions Questionnaire**

(1) Economic policy: (Taxes vs Spending) – POSITION/IMPORTANCE\*

- 1: Promotes raising taxes to increase public services
- 20: Promotes cutting public services to cut taxes

(2) Social policy: (Social Liberalism) – POSITION/IMPORTANCE \*

- 1: Favours liberal policies on matters such as abortion, homosexuality, and euthanasia
- 20: Opposes liberal policies on matters such as abortion, homosexuality, and euthanasia

(3) Economic policy (Privatization) – POSITION/IMPORTANCE \*

- 1: Promotes maximum state ownership of business and industry
- 20: Opposes all state ownership of business and industry

(4) Environment – POSITION/IMPORTANCE \*

- 1: Supports protection of the environment, even at the cost of economic growth
- 20: Supports economic growth, even at the cost of damage to the environment

(5) Decentralisation – POSITION/IMPORTANCE \*

- 1: Promotes decentralization of all administration and decision making
- 20: Opposes any decentralization of administration and decision making

(6) Market regulation – POSITION/IMPORTANCE \*

- 1: Favours high levels of state regulation and control of the market
- 20: Favours deregulation of markets at every opportunity

(7) Support of business – POSITION/IMPORTANCE

- (1) Favours policies to ensure most control of business in the Czech Republic
- 20: Favours policies to facilitate business in the Czech Republic

(8) EU: Authority – POSITION/IMPORTANCE\*

- 1: Favours increasing the range of areas in which the EU can set policy
- 20: Favours reducing the range of areas in which the EU can set policy

(9) Media freedom – POSITION/IMPORTANCE \*

- 1: The mass media should be completely free to publish any material they see fit
- 20: The content of mass media should be regulated by the state in the public interest

(10) EU: Strengthening – POSITION/IMPORTANCE \*

- 1: Favours a more powerful and centralized EU
- 20: Opposes a more powerful and centralized EU

(11) Tax system – POSITION/IMPORTANCE

- 1: Favours a highly progressive tax system
- 20: Favours a flat tax system

(12) Euro – POSITION/IMPORTANCE

- 1: Favours adoption of the euro as the domestic currency
- 20: Opposes adoption of the euro as the domestic currency

(13) Civil liberties – POSITION/IMPORTANCE\*

1: Promotes protection of civil liberties, even when this hampers efforts to fight crime and promote law and order

20: Supports tough measures to fight crime and promote law and order, even when this means curtailing civil liberties

(14) Immigration – POSITION/IMPORTANCE\*

1: Favours policies designed to help asylum seekers and immigrants integrate into Czech society

20: Favours policies designed to help asylum seekers and immigrants return to their country of origin

(15) Health care – POSITION/IMPORTANCE\*

1: Advocates that the government should provide universal free health care

20: Advocates medical expenses should be paid by individuals and private insurance plans

(16) Benefits of EU membership – POSITION/IMPORTANCE

1: Advocates that EU membership is beneficial for the Czech Republic

20: Advocates that EU membership is not beneficial for the Czech Republic

(17) Former communists – POSITION/IMPORTANCE\*

1: Former communist party officials should have the same rights and opportunities as other citizens to participate in public life

20: Former communist party officials should be kept out of public life as far as possible

(18) Nationalism – POSITION/IMPORTANCE\*

1: Strongly promotes a cosmopolitan rather than a Czech national consciousness, history, and culture

20: Strongly promotes a Czech national rather than a cosmopolitan consciousness, history, and culture

(19) The general left-right dimension – POSITION\*

Please locate each party on a general left-right dimension, taking all aspects of party policy into account.

1: Left

20: Right

(20) Respondent sympathy/closeness to party – POSITION\*

Taking all aspects of party policy into account, please score each party in terms of how close it is to your own personal views.

1: Same as the respondent

20: Farthest from respondent

Note that all 15 scales indicated with a star (\*) are the same as those in Laver and Benoit (2006: Appendix A, pp. 168–175). An additional, four Czech-specific scales were also included in this expert survey.

**Table A13.1: Overview of the discrimination and difficulty of the Czech economists' expert survey questions using an IRT model**

(a) Discrimination

No	Policy	B	SE	Z	P	95% CI	
1	Inflation target should be reduced	.55	.23	2.43	.015	.11	1.00
2	Money supply should be reduced	.91	.25	3.67	<.001	.43	1.40
3	Maximum rent limits should be increased*	1.11	.25	4.48	<.001	.62	1.59
4	Illegal drug regulation should be reduced	1.38	.28	4.85	<.001	.82	1.93
5	Human organ sales should be less regulated	1.70	.35	4.83	<.001	1.01	2.39
6	State budget deficit should be reduced	1.82	.39	4.68	<.001	1.06	2.59
7	Environmental regulations should be reduced	1.86	.36	5.14	<.001	1.15	2.57
8	Investment incentives should be reduced	1.94	.37	5.21	<.001	1.21	2.66
9	Total tax burden should be reduced	1.96	.40	4.87	<.001	1.17	2.76
10	Income tax rate should be reduced	2.02	.39	5.18	<.001	1.26	2.78
11	Students should pay more of university costs*	2.03	.43	4.72	<.001	1.19	2.88
12	Farm subsidies should be reduced	2.15	.41	5.20	<.001	1.34	2.96
13	Minimum wage should be reduced	2.20	.42	5.20	<.001	1.37	3.02
14	Anti-trust powers should be reduced	2.27	.45	5.05	<.001	1.39	3.16
15	Difficulty of dismissing workers be reduced	2.28	.44	5.16	<.001	1.42	3.15
16	Government expenditure should be reduced	2.39	.47	5.03	<.001	1.46	3.32
17	Anti-dumping actions should be reduced	2.41	.48	5.00	<.001	1.46	3.35
18	Importance of balance of trade be reduced	2.52	.51	4.93	<.001	1.52	3.53
19	Use of trade tariffs should be reduced	2.57	.52	4.98	<.001	1.56	3.58
20	Consumer protection regulation be reduced	2.81	.63	4.49	<.001	1.58	4.04
21	Formal power of trade unions be reduced	3.31	.68	4.85	<.001	1.97	4.65

(b) Difficulty

No	Policy	B	SE	Z	P	95% CI	
1	State budget deficit should be reduced	-1.12	.19	-5.92	<.001	-1.50	-.75
2	Students should pay more of university costs*	-.95	.16	-5.85	<.001	-1.27	-.63
3	Total tax burden should be reduced	-.83	.15	-5.40	<.001	-1.13	-.53
4	Government expenditure should be reduced	-.60	.13	-4.77	<.001	-.85	-.35
5	Maximum rent limits should be increased*	-.54	.19	-2.91	.004	-.91	-.18
6	Difficulty of dismissing workers be reduced	-.42	.12	-3.48	.001	-.65	-.18
7	Formal power of trade unions be reduced	-.36	.10	-3.41	.001	-.56	-.15
8	Farm subsidies should be reduced	-.27	.12	-2.30	.021	-.50	-.04
9	Income tax rate should be reduced	-.12	.12	-1.04	.299	-.36	.11
10	Minimum wage should be reduced	-.04	.11	-.35	.728	-.27	.19
11	Investment incentives should be reduced	-.04	.12	-.31	.756	-.28	.20
12	Use of trade tariffs should be reduced	-.03	.11	-.25	.804	-.24	.19
13	Anti-dumping actions should be reduced	.21	.12	1.85	.065	-.01	.44
14	Environmental regulations should be reduced	.85	.17	5.02	<.001	.52	1.18
15	Anti-trust powers should be reduced	.86	.16	5.47	<.001	.55	1.17
16	Importance of balance of trade be reduced	1.02	.16	6.22	<.001	.70	1.34
17	Consumer protection regulation be reduced	1.12	.17	6.68	<.001	.79	1.45
18	Illegal drug regulation should be reduced	1.20	.24	5.08	<.001	.74	1.66
19	Human organ sales should be less regulated	1.51	.25	6.14	<.001	1.03	1.99
20	Money supply should be reduced	2.32	.55	4.19	<.001	1.23	3.40
21	Inflation target should be reduced	3.53	1.36	2.60	.009	.87	6.19

Source: Survey of Czech Economists on Economic Policy, December 2008 to January 2009, n=182. Šťastný (2010) and authors' calculations. Model parameters derived from a two part (2PL) Item Response Theory (IRT) estimator. \* Items that are reversed coded in contrast to the direction of all other questions.