

Life course changes in income:
The role of partnership and parenthood transitions

Jannes De Vries & Matthijs Kalmijn¹

Tilburg University

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¹ The authors work as postdoc and professor respectively at the Department of Sociology of the Faculty of Social Sciences (P. O. Box 90153, 5000 LE Tilburg). Both authors are also affiliated to Netspar (Network for Studies on Pensions, Aging and Retirement). Please address correspondence to both authors: M.Kalmijn@uvt.nl and J.deVries_4@uvt.nl. This research has been made possible by the the program of Statistics Netherlands (CBS) *CBS Onsite At Home*, with which data of Statistics Netherlands can be analyzed at the own workplace via a secured connection with Statistics Netherlands.

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1. Introduction

The income position of a person changes over the life course. In general, two causes are responsible for this, individual and social causes. Individual causes concern changes in the personal income of the individual; people get promotion as a result of which they earn more, every year they get an extra periodical, which causes a slow rise in income, and people can stop working or become ill and loose income as a result of that. Social causes concern changes in the composition of the household to which the individual belongs. Since the members of a household pool their incomes together and share the pooled income, the income position of an individual depends partly upon the people with whom one lives. For instance, the income of a housewife will depend directly upon the income of her husband and the income position of both partners will depend upon the number of children they have to feed and cloth.

It may be clear that the combination of individual and social effects can be complex. For instance, it not only matters whether one lives together with someone or not, but it is also important with whom one lives together and what the individual changes of that person are, besides the individual changes that one experiences oneself. In this article we address transitions concerning partnership and parenthood. With respect to partnership we look at living together with a partner, divorce from a partner, the death of a partner and remarriage. Concerning parenthood we look at getting children, the children growing older, and the children leaving the parental home. Our research question is: *How does the income position of individuals change after partnership- and parenthood transitions?* The income position is defined as the household income divided by the household equivalence factor. The household equivalence factor is the number of persons in a household, adjusted to economies of scale. Since partnership and parenthood transitions depend strongly upon age, we control for the influence of aging itself on the income position. Differences between men and women are studied as well.

Several researches have investigated the effects of partnership and parenthood transitions on the income. Entering into cohabitation is usually the first transition (after leaving the parental home) which people make. Dutch research shows that

cohabitants without a child are economically better off than singles without a child (Latten 2003). For the USA and Germany DiPrete and McManus (DiPrete and McManus 2000) also found a positive effect of cohabitation. This effect is much stronger for women than for men. In addition, for women cohabitation increases the chance of becoming rich (i.e. having a household of ten times the poverty line), while for men it has no significant effect (Hirschl, Altobelli, and Rank 2003).

Getting children is another transition which has frequently been studied. The classical studies concerning getting children address the so called *life cycle squeeze*, the decline in income after the birth of the child (Oppenheimer 1982). This has been studied in the Netherlands as well (Van Praag, Pommer, and Vrooman 1997), but these Dutch studies are not very elaborated. Bos and Hooghiemstra (Bos and Hooghiemstra 2004) find that the purchasing power of couples who got their first child in 1999 or 2000 declined with 18 percent, while the purchasing power of couples who did not get a child rose with 1 percent. Latten concludes with cross-sectional data that families with children have a lower standardized household income than couples without children (Latten 2003). Single parent families have the lowest household income. According to Sørensen (1994) this is especially the case in the USA, less frequently in West-Germany, and hardly the case in Sweden (Sørensen 1994).

Another frequently studied aspect of the life-course is divorce. Research using panel surveys shows that women in the Netherlands experience a decline in purchasing power of 23 and 31 percent respectively after a divorce, while men experience a rise of 7 and 4 percent respectively (Bouman 2004a; Poortman 2000). Similar effects have been found in other countries (Duncan and Hoffman 1985; McManus and DiPrete 2001; Peterson 1996). The influence of widowhood has been studied less frequently. Older studies show that people whose partner deceased are worse off economically than people living together, especially women (Zick and Smith 1988). However, Morgan (1981) concludes on the basis of widowhood among women in middle life that there is no effect if the husband's income before his death is controlled for (Morgan 1981). Possibly, the income had already declined due to illness of the husband.

Though a lot of research has been conducted on life-course effects on the income position, the Dutch research in this respect is limited. Several reasons are responsible for this. One complicating factor for studying income effects is that many

sociologists and demographers use retrospective life history data. Such surveys offer a lot of useful data, but they have to use the occupation as indicator of inequality, since it is unfeasible to ask income retrospectively. However, occupation is a more individual measure of economic well-being than the household income. Off-course, occupation has its effects on the other members of the household, for instance shared prestige, but this is a more indirect influence than the sharing of income and consumption. It is therefore ironic that economists with their in general more individualistic theoretical approach look at household income, while sociologists with their social and contextual theoretical approach, usually look at the more individual measure occupation.

Nevertheless, even if people did have panel data at their disposal, they did not always choose the best design. Our study provides new insights in life-course transitions by analyzing Dutch tax data. These data are available over a period of 12 years and are merged to demographic data from the central municipal basis administration (GBA). These data have a number of advantages: (a) they have been collected prospectively, (b) they contain more reliable measurements of income than is possible in surveys,² (c) they hardly contain missing values for income (usually about 20 percent in surveys), and (d) they contain a large number of cases (the analytical sample in our paper is 65,600 persons).

We will improve on existing literature by analyzing several transitions in the same way in an integrated model, such that the effects of different transition can be compared well with each other. Second, we not only look at changes in the *standardized* household income, as has usually been done in previous research, but also at changes in the *total* household income and changes in the *individual* income. Due to this distinction it is better possible to show what caused the income effects—social or individual changes. For instance, an important matter is whether the decline in income position after the birth of children is caused by the increase in costs or the decline in the wife's income. In the same way one can investigate whether the

² Kapteyn and Ypma make some critical comments on this assumption (on the basis of Sweden) Kapteyn, Arie and Jelmer Yeb Ypma. 2006. "Measurement error and misclassification: a comparison of survey and register data." RAND Labor and Population [working paper]. However, in their models measurement error in income on the basis of register data completely results from errors during the procedure of matching the register data to the survey data. Moreover, they look at personal income instead of household income. Further, the respondents in the interview they use were interviewed just after they received information about their received information on their income from the tax department.

advantage of cohabitation is only due to economies of scale or to a rise in the personal income as well. By the parallel analysis of the three sorts of income, these questions can be answered in a better way.

2. Hypotheses

In this article two sorts of life-course transitions are studied: partnership and parenthood transitions. Several theoretical arguments speak for these effects.

2.1 Hypotheses about partnership transitions

We compare the situation of being single to the situation of cohabitation. Nowadays most people who enter cohabitation, were single before that transition. It hardly happens that people stay in the parental home till they enter into cohabitation (Liefbroer and Dykstra 2000).

Our first hypothesis is: *Cohabiting improves the income position.*³ Several theoretical arguments plead for this hypothesis. First, cohabiting leads to economies of scale (Waite and Gallagher 2000). If two people start cohabiting while their personal incomes stay the same, their income position improves, since it is advantageous to share collective goods, such as the rent or the mortgage and the purchase of consumer durables. On the basis of information about the expenditures on individual and collective goods in households, economists calculated that two persons living together need only 1.4 times the amount which a single needs in order to obtain the same level of welfare (Schiepers 1988). Thus, if two singles pool their incomes when living together they experience a rise in purchasing power of 43 percent.

A second advantage of cohabitation is the career of the husband. Research has shown that the careers of men develop more prosperously after marrying or cohabiting. For instance the rise in income appears to be stronger (Beckers and Kalmijn 1998; Korenman and Neumark 1991) and the chance of labor disability or unemployment decreases if men are married (Kalmijn and Luijkx 2005). This so-called *marriage premium* is usually attributed to three factors: the support that a

³ Cohabiting and being married are considered to be the same in this paper.

husband gets from his wife, the increase in feeling of responsibility that men have after they marry, and 'affirmative action' of employers towards married employees.

Is it likely that the advantage of cohabitation for the man will be counteracted by the effects that it has on the career of the woman? In the past women often stopped working after marriage, but nowadays the effects of marriage on women's labor participation are much smaller. Retrospective research shows that in the sixties marriage (or cohabitation) had a strong negative effect on women's labor participation. However, in the nineties, this effect has completely disappeared, but there is still a negative effect of the birth of the first child on labor participation (Kalmijn and Luijkx 2006). The negative effect on the career of women now takes place later in the life course.

The considerations made above give rise to the expectation that cohabitation has an economic advantage. We add to that a hypothesis with respect to differences between men and women. This hypothesis reads: *The positive effect of cohabiting on the income position is stronger for women than for men.* This hypothesis might seem unexpected since cohabitation stimulates the career of the man, while for women it has a small negative effect on labor participation. However, considering the fact that people within households share their incomes, this hypothesis does not come unexpectedly. Women on average have lower paid jobs than men and even if women have the same job as men, they still get paid less. Therefore, a single woman who enters cohabitation with a man experiences a stronger rise in purchasing power than a single man who enters cohabitation (*ceteris paribus*). It is even possible that the income position of men deteriorates. If he marries a non-working woman, he will have to share the income which he previously could consume alone with his wife. The economies of scale and the *marriage premium* compensate this partly, but possibly not completely.

The next transition we look at is the transition from cohabiting to being single. To some degree this transition is the opposite of the transition from single to cohabitation, but there are also differences. First we focus on divorce. Our hypothesis on this reads: *Divorce deteriorates the income position.* We expect different effects for men and women: *The negative effect of divorce on the income position is stronger for women than for men.* Several considerations lead to this expectation.

First, both men and women lose the economies of scale related to cohabitation, since neither of them shares a household anymore. The decline in the

quality of the housing after divorce for one or both partners is a characteristic example of this effect (Feijten and Mulder 2002). Second, the redistribution of the household income after divorce is in the disadvantage of women. Though in general alimony is paid, this usually lasts for a short period and the amount is insufficient to compensate for the loss of the husband's income. Women's labor participation increases after divorce—in order to compensate for the decline in income—but this usually compensates the loss only partly due to the fact that women lost labor market experience during marriage and their *human capital* is not up to date (Poortman 2000). Many women who did not work before the divorce have to live from welfare some years after divorce (Poortman and Kalmijn 1999; Poortman 2002).

Above we compared persons before and after a divorce. The situation after divorce can also be compared with the situation before marriage. Married women are better off than single women, divorced women are worse off than married women, but how do divorced women differ from never-married women? Since women lose labor market experience during marriage, it is likely that divorced women are worse off than never married women (*ceteris paribus*). It is true that women often get alimony, but—certainly in the absence of children—the amount is low and the duration is short. The hypothesis reads: *For women the decline in the income position after divorce is stronger than the rise in income position after cohabitation.*

Divorce may have a negative effect on men too, though probably less strong. For instance, a divorce might have a negative effect on men's career. Research shows that men have a higher chance of getting unemployed or disabled (Kalmijn 2005; Kraft 2001). For men, not only a *marriage premium* exists, but also a *divorce penalty*. The health problems that can be partly caused by divorce also exist among women (Williams and Umberson 2004).

To what degree has widowhood a negative effect on the income position of men and women? Let's first look at the position of women. In most cases women (after the age of 65) get that pension which the man had saved before he died. The amount paid is usually lower than the regular income which the men earned. In addition, an obliged public insurance exists for survivors, from which women can get a payment till age 65, but the amounts paid are relatively low. The decline in household income in a way makes sense, since after the death of the partner, only one person has to live from the income. Nevertheless, economies of scale play a role here as well. According to the budget calculations of Schiepers, women need 70 percent of

the income of the partner in order to remain the same purchasing power (if they do not have an income of their own). Hardly any pension fund pays such an amount. Additional arrangements and life-insurances exist, but it does not seem likely that many people make use of this. For these reasons we formulate the following hypothesis: *Widowhood leads to a decline in the income position of women.*

How does the effect of widowhood relate to the effect of divorce? In contrast to divorce women do not completely lose the income of the partner: usually people are already pensioned when the partner dies and one stays entitled to part of the pension of the partner. This leads to the hypothesis: *The decline in the income position after the death of the partner is smaller than the decline after divorce.* Still, one has to take into account that widowhood and divorce are different events. Widowhood takes place later on in the life course than divorce. In addition, the age range is larger for divorce. Therefore the *ceteris paribus* condition is important here.

For men we expect a positive effect of widowhood, especially if the partner did not work. In that case men keep their income, without the need to share it. Our hypothesis is: *For men widowhood leads to a rise in income position.*

Both after divorce and after the death of a partner people can enter into cohabitation again. Just as for the first time of living together, this can lead to an improvement of economic well-being. However, we expect remarriage to be less advantageous than marrying for the first time. After remarriage one is no longer entitled to alimony. The same applies to welfare if one marries someone who has a job. If the new partner lives on welfare as well, the new payment will be less than twice the old payment. Therefore, after remarriage the new income is less than the sum of both old incomes. This leads to the hypothesis: *The improvement in income position is smaller after remarriage than after first marriage.*

2.2 Hypotheses about parenthood transitions

Above we argued that cohabitation has economic advantages. However, in the beginning of the life course, negative income effects take place as well due to the birth of children. The hypothesis reads: *Getting children leads to a deterioration of the income position.* Several reasons can be given for the existence of this effect. Parents have to take care of the children, which costs money, while the children do not earn money themselves. At the same time the household income decreases due to

a lower labor participation of the wife after the birth of the child. The increase in expenditures and the decrease in household income lead to a strong decline in income positions. Parents are entitled to children's allowance, but this only partially compensates the decline. The fact that nowadays also some men work less in order to contribute to the care for the children, makes the decline stronger. Though this makes it possible for women to work more hours, the effect on the household income will be negative if the man has a higher wage than the woman. Summing up, it seems that cohabitation is advantageous, while getting children leads to an income decline. The question remains whether married couples with children are better or worse off than singles without children (*ceteris paribus*).

The degree in which it is possible to combine taking care of children with paid labor depends upon the age of the children. In the Netherlands most children go to primary school at the age of four. Before this age fulltime childcare is necessary if both parents work. When children follow primary education, only childcare during lunchtime (which at most Dutch schools is organized at low costs) and childcare in the afternoon (Dutch primary schools usually end at 15.30 pm) is necessary. At a later age, childcare is superfluous. The more childcare is necessary, the more women will be inclined to work. Especially the age of the youngest child determines how much childcare is necessary in order to be able to work. Our hypothesis therefore reads: *The older the children (living in the parental home) are, the better the income positions.*

If children leave the parental home, the parents have less expenditures and the woman sometimes returns to the labor market. Our hypothesis with regard to this empty nest stage is: *The transition to the empty nest stage leads to an improvement of the income position.* Ironically, at this stage people earn higher wages due to the fact that they are older. Wages are low when people have to take care of children and high in the empty nest stage.

3. Data, measurement, and methods

The prospective data that we use stems from the Income Panel Study (IPO) of Statistics Netherlands (CBS) (van der Brug, Trimp, and Selten 2004). The IPO contains data from tax records of an aselect sample of about 90,000 persons for the period 1989-2000. Every year new cases have been added to the sample in order to compensate for panel-attrition (due to death and emigration). Besides information on

income, the IPO contains data on the household composition, marital status, age, municipality, and the children and partner living in the same house as the respondent. The IPO does not have any age restriction, but we restrict our analyses to people aged 18 till 90. Furthermore, we exclude gay and lesbian couples and couples with older children (25 or older) living in the household.

3.1 Equivalence scales

The income position is not only determined by the income level, but also by the number of people over whom the income has to be divided. Economies of scale play a role here, since for instance the costs of rent rise less than proportional with the number of people in the household. Other consumer goods can be divided as well, which enhances the purchasing power. If larger households do not profit from economies of scale, the income has to be divided by the number of people in the household. Since economies of scale exist, the income has to be divided by a number smaller than the number of people in the household (but larger than one). This number is the equivalence factor. Equivalence factors can be calculated in different ways.

Four kinds of equivalence factors can be distinguished (Buhmann, Rainwater, Schmans, and Smeeding 1988). The first two are based on the knowledge of experts. These are expert scales developed for statistical purposes and expert scales developed for policy purposes. The other two are based on empirical research; a distinction has been made between objective and subjective scales. For subjective scales, people are asked how they would spend their money for different levels of income. For the subjective version people are asked to judge their own income and they are asked how much they would need to make ends meet.

We use the equivalence scale of Statistics Netherlands (Schiepers 1988; Siermann, van Teeffelen, and Urlings 2004). This scale is an objective empirical equivalence factor. It is based on the Dutch situation and takes the number of adults and the number of young children, the age of the oldest child, and the age of the person in the household who earns the largest part of the income into consideration. Moreover, the equivalence factors have been adjusted over time. To give an impression of the economies of scale that this equivalence factor assumes: For a household consisting of two persons the income is not divided by 2, but by 1.6, which implies that with the same amount of money, one can consume more.

The equivalence scales of Statistics Netherlands assume larger economies of scale than for instance the most important American equivalence scales, based on the poverty-line and the BLS equivalence scale (Poortman 2000), but smaller economies of scale than two subjective Dutch equivalence factors, one based on an evaluation of the own income (in a survey) and one on the income that others (according to respondents in a questionnaire) would need to make ends meet (Buhmann, Rainwater, Schmans, and Smeeding 1988).

An assumption of equivalence factors is that the income and the consumption paid with it is shared equally by the husband and the wife. Little research has been conducted about this, but some recent studies investigating the subjective experience of consumption suggest that nowadays the income is shared equally by men and women (Alessie, Crossley, and Hildebrand 2006).

3.2 Income measures

We use three measures for income: (a) the personal income from all sources (b) the total household income (of the respondent and his/her partner), and (c) the standardized household income. The difference between the first and the second income shows how strong the influence of the partner is, but does not take into account that the income is shared. The difference between the second and the third income show the effects of sharing the income and of economies of scale. The standardization that we apply is the division by the number of persons in the household members corrected for economies of scale, in this case the equivalence factor of Statistics Netherlands.

Because the variable income is right-tailed, we took the natural logarithm. This makes the interpretation of effects easier. Child alimony which people received or paid has not been incorporated in the household income, since this is not known in the tax records, because recipients do not have to pay taxes on child alimony and those who pay child alimony cannot deduce this from the income on which they have to pay taxes. In the appendix we discuss the way in which we corrected for this.

3.3 Transitions

We take singles without children as starting point for the analysis of life-course transitions. Since hardly anyone makes a direct transition from living in the parental home to marriage, almost everyone experiences the phase of being single. The transitions have been divided into two groups: transitions related to having a partner and transitions related to having children. At first, these transitions have been investigated independently from each other with childless singles as reference category. We also looked whether interaction effects between relationship and parenthood transitions were present, but this turned out not to be the case.

Table 1 shows that the transition variables have been coded in such way that the contrasts are cumulative. The effect of divorce is the difference between being divorced and being married, the effect of being married is the difference between being married and being single, etc. The same accounts for parenthood transitions.

Table 1 Link between transitions made and household composition

RELATIONSHIPFASES	TRANSITIONVARIABLES				
	Cohabiting	Divorce	Widowhood	Remarried after divorce	Remarried after widowhood
Single	0	0	0	0	0
Couple	1	0	0	0	0
Divorced	1	1	0	0	0
Widowed	1	0	1	0	0
Remarried (after divorce)	1	1	0	1	0
Remarried (after widowhood)	1	0	1	0	1

PARENTHOODFASES	TRANSITIONVARIABLES	
	Children	Empty nest
Without children	0	0
With children	1	0
Children have left parental home	1	1

We do not have complete information about transitions made before 1989. If people were divorced or widowed in 1989, this implies that they were married in the past. However, if people were single in 1989 it is unknown whether they ever cohabited (without being married). Further, if people do not have children living in the household in 1989, it is unknown whether they have children who have left the parental home. This shows a disadvantage of the IPO (and many other register data):

The history is limited to the period of the panel, and we hardly know anything about the previous past.

3.4 Models

We analyze the IPO-data using *panel regression* (in STATA). The unit of analysis is person-years, clustered within persons. Thus, a person forms several cases, but for each household, only one person is in the analysis. We estimate *fixed effects* models. In these models the dependent variable is the income of a person, contrasted with his or her own mean income. This implies that it is neither possible, nor necessary to control for time-invariant personal characteristics, such as education or ethnic background. Since for every person, only the deviations from his or her own *baseline* are considered, all unmeasured time-invariant personal characteristics are controlled for. All analyses are performed separately for men and women.

We do control for time-varying variables. Age is controlled for, since age is related both with partner and parenthood transitions and with income. We also control for region and urbanization. The Dutch provinces have been divided among four regions: North (Groningen, Frisian en Drenthe), Middle (Overijssel, Flevoland and Gelderland), West (North-Holland, South-Holland and Utrecht) and South (Zeeland, North-Brabant and Limburg). Urbanization has five categories (very strong, strong, moderate, weak and not at all). Finally, we control for a period effect by adding a dummy for each year. Table 2 shows the means and standard deviations of the most important variables in our analyses.

4. Results

Table 3 presents the results of the regression models for men and women and for the three income measures. For income, its natural logarithm has been taken. As a result the effects of variables can be expressed in terms of percentage. For dichotomous variables the calculation is as follows: For a positive effect the percentage is $100 \times (\exp B - 1)$, for a negative effect the percentage is $100 \times (1 - \exp B)$.

4.1 Partnership transitions

The results show that the personal income of women increases when they enter into cohabitation. Thus, women do not stop working at that moment. Several decennia ago the situation was very different. Then women usually stopped working at the moment of marriage (Kalmijn & Luijkx 2006). It is not clear why the income increases. A possible answer is that some women enter into cohabitation at the same moment as the start of their occupational career, for instance because they want to finish their education before they start living together. For men we see a positive effect of cohabitation on the personal income too. This supports the hypothesis on the *marriage premium*. The increase in after tax income is not caused by tax rules that are in the advantage of cohabitants. The increase in before tax income is even stronger (not shown here), especially for women. Therefore taxes partly counteract the increase after cohabitation (possibly due to the progressive taxing system), instead of causing them.

For women the total household income increases 79 percent due to the fact that the income of the man is added to their own income. For men, the increase is less strong (56 percent) which shows that in general women earn less than men. If we take sharing and economies of scale into account, the income position of women is still 56 percent larger than before cohabitation. Again, for men the increase is less strong, 38 percent.

According to the equivalence factor, the merging of two incomes would lead to an increase in purchasing power of 43 percent (Kalmijn 2002). For women, our estimate is clearly higher. This has to do with the fact that women usually live together with a man whose income is higher than their own. Of course, both profit from the increase in personal income after cohabitation. But even in the present era, the economic benefits of cohabitation are stronger for women than they are for men.

Furthermore, Table 3 shows that if women divorce, their economic situation deteriorates. Though their personal income increases strongly (to six times their pre-divorce income), the total household income declines with 42 percent, due to the fact that the partner's income is not part of the total income anymore. Since single women have less expenditures than couples, the standardized income declines less strongly, but the decrease is still 30 percent. For men the consequences of divorce are different. First, the effect of divorce on personal income is small but negative. Table 3 shows

that the household income declines as well for men, which makes sense since some married women work and men lose that income. At the individual level this leads to a small decline in income of 15 percent. Thus, this decline is smaller than the decline for women. Just as cohabitation benefits women more than men, divorce harms women more.

An interesting question is whether the divorced are worse off than (never married) singles. Both divorced women and men turn out to be better off than those who never married; the income decline following divorce is smaller than the rise in income due to cohabitation. This is a refutation of our hypothesis and underlines the relatively weak position of never married singles in our society. Note that we did control for age.

The negative effect of divorce on the income position is not a new conclusion. Less well known is the economic effect of widowhood. Does widowhood have a negative effect too? How does this differ between men and women? It turns out that the personal income of women increases strongly after widowhood. This results from the fact that the pension or payment that (partly) belonged to the man's income, now completely belongs to the woman's income. The total household income declines with a quarter after the man's death. However, the expenditures decline as well, since there is one person less in the household. Because of this, the income position is the same as before the death of the partner, which is a refutation of our hypothesis on the effects of widowhood. If we compare the position of widows with divorced and never married women, it turns out that women are better off.

For men, the death of a partner has a slight positive effect on the income position. The increase in standardized income is 16 percent. Two causes are responsible for this increase. First, men do not have to share their income with a partner. Second, the personal income increases (with 25 percent). It is not clear where this increase stems from.

Remarriage has often been seen as a way for divorced women to recover financially. Table 3 shows that remarriage after a divorce, results in a halving of the personal income. This can be the result of the loss of a payment or of quitting a job after remarriage. As expected, the household income increases since the woman gets a partner who earns money. In the end this results into a rise of the standardized income. This supports the idea that divorced women can recover financially by remarriage.

The effects of remarriage after widowhood are in the expected direction as well. The personal income of women declines strongly after remarriage, possibly due to the loss of a payment or survivors' pension. Still, the household income increases strongly, which shows the influence of the income of the man. The result is a strong increase in the income position of widowed women (81 percent). In contrast to our hypothesis this increase is stronger than for the first marriage.

For man the increase of remarriage is small. Only remarriage after divorce benefits men financially. Remarriage after widowhood decreases the personal income of men, but increases the household income. The effect on the standardized income is neutral.

4.2 Parenthood transitions

We now focus on parenthood transitions. Table 3 shows the presence of a strong decline for men and women after the birth of a child. This is the effect of having children aged 0-3. The decline is 28 percent (based on the results for women).⁴ What causes this decline? First, the personal income of women declines strongly after the birth of a child, namely with 89 percent. This results from working less or quitting with a job after the birth of a child. Possibly, tax law plays a role, since this might make it advantageous to transfer income from one partner to the other. The personal income of men seems to increase somewhat after the birth of children. This could be due to tax law, but also to a real rise in the income of the man after the birth of children.

The decline in the personal income of the woman combined with the small rise for men cause a decline in the total household income of 11 percent. This decline is much smaller than the decline in the income of the woman due to the fact that the personal income is a small part of the household income. More important is that the decline in the standardized household income is much stronger (28%) than the decline in the unstandardized household income. This results from the increased expenditures due to the children. We conclude therefore that about 60% of the decline results from the costs of children, and the rest from a retreat of women from the labor market (which is partly compensated by an increasing income of the man).

⁴ The estimates of the changes in the household income based on men are about the same (Table 3).

Other changes take place after the birth of the first child as well. The personal income of women rises when the children become older (it doubles when the youngest goes to primary school and it again increases (with 90 percent) when the youngest goes to secondary school). This shows a partial comeback on the labor market. Since the income of the man does not increase or even decreases and the income of the women forms just a small part of the total household income, the total household income only marginally recovers from the decline after the birth of children when the youngest child becomes older. Therefore, the standardized household income hardly changes after the birth of the first child.

Is a cohabiting woman with children better off financially than a single woman without children? On the basis of our analyses the answer is yes. Cohabiting causes a rise of 56 percent and the birth of children imply a deterioration of 28 percent. Net, this implies a rise of 12 percent. Note that the influence of age has been controlled for. For cohabiting men with children there is no improvement compared to being single without children. The positive effect of cohabiting (.32) is counteracted by a decline due to getting children (-.36).

Above we expected that if getting children had a negative effect, children leaving the parental home would have a positive effect. The data support this. When all children have left the parental home, the standardized income rises with 26 percent. This increase is fully due to lower expenditures: now that the children have left the parental home the same income is shared with less people. The personal income of the woman does not increase in the empty nest phase.

5. Conclusion and discussion

In this article we found strong support for the existence of a positive partner-effect on the income position. The partner-effects take place both at entering into cohabitation and at losing one's partner. However, the negative effect of the 'loss' of a partner is less strong than the positive effect of 'gaining' a partner. More importantly, the partner-effects are stronger for women than for men. The effect of gaining a partner is much stronger for women than for men. For men, the advantage of gaining a partner is the result of economies of scale, for women also the fact that the partner earns more than oneself plays a role. The personal income rises as well after the start of cohabitation; in contrast to previous research, these effects were found for women too.

We also found that remarriage benefits the income position of women. Remarriage completely compensates the decline in income that women experience after divorce. After remarriage, women have a lower personal income, which suggests that remarriage and paid employment are different ways to compensate for the negative consequences of divorce. Remarriage does not benefit men, neither are men harmed by divorce. In sum, we conclude that marriage benefits women more than men.

Further, we do not find any negative effect of widowhood. This applies for both men and women. The income of the deceased partner is partly paid as survivors' pension and the income does not have to be shared anymore. We observe changes in the personal income as well, but it is unlikely that these result from an entrance on the labor market.

We also find strong effects of parenthood transitions. Getting children decreases the standardized household income with about 28 percent. This is partly the result of a decline in the woman's personal income after the birth of children, but of more importance are the expenditures which are necessary for children. The decline in standardized household income hardly recovers when the children become older; the recovery of the income position does not take place before the children leave the parental home. The empty nest phase is beneficial financially for the couple, but this only results from lower expenditures, while at that moment women do not seem to re-enter the labor market anymore. The personal income of women does not rise when the children leave the parental home.

We have to make some comments about our analyses. We did not distinguish between short term and long term effects. In our models we investigate a term which - depending on the moment of the transition- lies between one and twelve years. Neither do we distinguish between short term and medium term effects. It would be interesting to investigate the consequences on the long term: to what degree are people able to adjust to the new situation (for instance by increasing the number of working hours after a divorce) and re-gain the income position which they had before the transition. Weiss (Weiss 1984) finds no recovery of the income position in The United States. However, according to DiPrete and McManus (2000) the negative effect of divorce on the income position of women decreases after time.

Another drawback is that considering remarriage, we only look at those who remarry quickly. For men two thirds and for women half has a new partner within five

years (Bouman 2004b). In the IPO data people are followed for a period of twelve years. People who divorce at the start of the period under investigation (or those who were officially divorced before that time) are followed for a period longer than five years, while people who divorce at the end are followed for a shorter period. Still, many people remarry after more than five years (De Graaf and Kalmijn 2003).

Appendix

The economic decline for divorced women is partly compensated by alimony. Since the data from the Income Panel Study that we use do not contain information about the amount of alimony which women receive (and alimony is not included in the annual income), the income decline after divorce is overestimated. This is also the case for previous analyses of register data in the Netherlands (Bouman 2004a), but not in analyses of panel surveys (Poortman 2000).

In order to correct for this, we analyzed additional data, namely data from the POLS WoningBehoeftonderzoek [HousingNeedstudy] from 1998. This is a large-scale representative study among the Dutch population. From these data we selected divorced women who lived without a partner at the time of interview (N = 2888). Women were asked whether they received alimony. 9 percent of the women without children living in the household, received alimony (for themselves). Of the women with children living in the household (of whom the youngest child was under 18) 15 percent received alimony for themselves and 25 percent for their children (35 percent received one or both kinds of alimony). Those women without children who received alimony received € 545 per month, while those with children on average received € 351 monthly. If we only look at child alimony, the average amount is € 217 monthly. Note that though the amount is higher for women without children, the proportion that gets alimony is smaller.

We applied the following method to correct the estimates for alimony. Using the POLS data we performed multivariate regression with (total) alimony as the dependent variable. Whether or not women received alimony is incorporated by setting the amount on 0 for those who did not receive alimony. The independent variables are: the women's age, age squared, the number of children, the age of the youngest child (in three categories) and the annual income (excluding alimony). The income of the ex-partner is an important predictor as well, but this is not available in

the POLS data. On the basis of these regression results the expected amount of alimony has been calculated in the IPO data for each divorced woman. Including predicted alimony in the analysis changes the coefficient of divorce for women from -.36 to -.33. Thus, the estimate does not seem to change much.

This procedure has advantages above other procedures. Previous procedures used an average amount in order to correct in stead of an individual amount. Other procedures used the amount to which women were entitled according to law. The actual amount paid can deviate strongly from that. Moreover, a lot of exceptions exist, which makes it difficult to calculate the amount based on divorce law.

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Table 2 Descriptive information of the most important variables

	women			men		
	N	mean	s.d.	N	mean	s.d.
personal income	378164	16277	15030	344499	38286	21188
income partner	383139	29147	29123	347630	9616	13837
household income	380461	45650	25777	344872	47918	25806
standardized household income	380461	30656	16153	344872	31886	16567
cohabiting	313483	.91		281398	.88	
divorced	331483	.08		299428	.06	
remarried after divorce	329512	.05		297624	.05	
widowed	331483	.11		299428	.03	
remarried after widowhood	330883	.01		299567	.01	
youngest child 0-3 years old (cumulative coding)	324707	.50		293428	.52	
youngest child 4-11 years old	324707	.39		293428	.40	
youngest child 12-17 years old	324707	.26		293428	.27	
youngest child 18-24 years old	324707	.17		293428	.18	
children left the parental home	383139	.07		347630	.07	
age (continuous; in the analysis as dummies)	383139	48	17	347630	47	16
year (continuous; in the analyses as dummies)	383139	1994.591	3.461	347630	1994.591	3.458
urbanization (0=very strong; 5=not at all)	335677	2.9	1.3	305322	2.9	1.3
region: north	383139	.11		347630	.11	
region: central	383139	.20		347630	.20	
region: south	383139	.24		347630	.25	

Table 3 Effects of life course transitions on the income position of women and men

	Model 1		Model 2		Model 3	
	Personal income Women	Men	Household income Women	Men	Standardized income Women	Men
couple versus single	.693 (.055)	.159 (.020)	.585 (.015)	.443 (.017)	.446 (.014)	.320 (.017)
divorced versus couple	1.796 (.047)	-.056 (.019)	-.554 (.012)	-.384 (.016)	-.363 (.012)	-.158 (.016)
widowed versus couple	2.476 (.040)	.220 (.025)	-.287 (.011)	-.134 (.021)	.010 (.011)	.148 (.021)
remarried versus divorced	-.704 (.041)	-.050 (.016)	.512 (.011)	.350 (.013)	.351 (.011)	.167 (.013)
remarried versus widowed	-.724 (.102)	-.096 (.043)	.868 (.027)	.308 (.037)	.592 (.027)	.017 (.036)
children (0-3 years old)	-2.194 (.033)	.111 (.012)	-.114 (.009)	-.124 (.010)	-.330 (.009)	-.355 (.010)
child 4-11 years old (cumulative coding)	.680 (.023)	-.007 (.008)	.030 (.006)	.034 (.007)	.034 (.006)	.031 (.007)
child 12-17 years old (cumulative coding)	.641 (.026)	-.013 (.009)	.019 (.007)	.015 (.008)	.027 (.007)	.031 (.008)
child 18+ years old (cumulative coding)	.082 (.026)	-.060 (.009)	-.064 (.007)	-.047 (.008)	-.029 (.007)	-.001 (.008)
children left the parental home (cumulative coding)	-.046 (.028)	-.008 (.010)	-.014 (.007)	-.027 (.008)	.251 (.007)	.248 (.008)
R-2 within persons	.194	.028	.106	.067	.004	.053
R-2 between persons	.090	.001	.040	.000	.082	.001
person-years	268017	243567	269881	243818	269881	243818
persons	37820	25569	37802	35575	37802	35575

Note: We took the natural logarithm of income

Note: Between brackets are the standard errors

Note: We controlled for age (via dummies for each age), period (dummies for each year), urbanization and region.