Role specialization during partnership, the risk of separation, and post-separation employment: A life-history analysis of 10 countries

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ABSTRACT

Traditional role specialization is generally considered an important factor explaining the divorce risk for women. This effect is attributed to the higher economic exit costs of specializing women. The relationship between specialization during partnership and women's economic situation after divorce is never empirically tested, however. In this paper, we test for 10 countries to what extent specialization during partnership leads to divorce/separation and to lower employment chances after separation. Furthermore, we examine the effect of separation on employment, taking selectivity bias into account. We use the Fertility and Family Surveys and measure role specialization by the work and fertility history of separated women during their partnership. Preliminary analyses show that a separation indeed increases the odds of employment, but only for those who do not repartner. We also find that women who specialized less during their partnership are more likely to work after separation. We did not find a consistent effect of partnership duration or marriage on women's odds of post-separation employment. However, we have to do further analyses to correct our models for selection bias.

1. Introduction

Several scholars have found that the more women specialize in domestic work and the less they participate in paid labor during their partnership the lower their risk of divorce (Brines & Joyner, 1999; Kalmijn, Loeve & Manting, 2007; Poortman & Kalmijn, 2002; Rogers, 2004; South, 2001). This effect is attributed to the higher economic exit costs of specializing women; the more they specialize, the more their human capital depreciates, and the less economic resources they will have outside the partnership. Moreover, specialization is assumed to lead to higher economic gains of partnership for both men and women, and therefore also results in higher economic costs when the union dissolves. This underlying reasoning is never empirically tested, however. Do women who separate indeed have better economic resources, and thus have higher employment probabilities after separation? And do women who specialized during partnership indeed have lower employment chances after separation? By asking these questions we combine two lines of research: Research on the economic causes of divorce and research on the economic consequences of divorce. Scholars do have investigated the effect of role specialization or women's employment within marriage on the divorce risk as well as the effect of divorce on women's post-divorce employment (e.g., Covizzi, 2008; Jenkins, 2008; Van Damme, Kalmijn & Uunk, forthcoming). But so far, no study has combined both lines of research into one study (examining the effect of specialization on employment chances after divorce).

In this paper, we first replicate the research on the effect of role specialization on separation. Second, we investigate to what extent women who separate have higher employment probabilities after separation and to what extent this

might be due to lower specialization during partnership. And third, we examine to what extent specialization during partnership leads to lower post-separation employment chances, thereby taking into account that the women who separate are a selective group. We have to correct for selection bias because women who have better labor market potential are more likely to separate. This labor market potential may not only be human capital, but also economic strength in terms of personality traits and work values. Hence, even divorcing women who have specialized in domestic labor might have some characteristics (more work oriented and self-confident, for instance) that give them better labor market opportunities after union dissolution. We use a two-step Heckman model to correct for this selection bias.

To answer our research questions, we use the retrospective data of the Fertility and Family Surveys (FFS) of 10 countries. The data of these countries has life histories of 42,300 women covering about 40 years. We use 33,634 partnered women who married or cohabited in the period 1955-1999 and separated between 1957 and 1999. These data enable us to estimate long-term effects over a 13 year period. This is an improvement upon previous studies which only looked into the recent period before and after separation. Separation is defined as a transition from being married or cohabiting in one month to being divorced or (legally) separated in the next month. Hence, we consider partnerships of both married woman as well as cohabitating women (hereafter referred to as 'partnered') and, if relevant, their union dissolutions. We define specialization of women in domestic work and men in paid work in contrast to non-specialization of the couple (both spouses are working). Specialization is measured using the work and fertility history of separated women during their partnership. We assume that the more women work and the shorter the period they have children during the partnership, the less they are specializing.

Although we do not have information on the employment status of the spouse, we believe that the employment status of the wife is a good proxy for specialization within the couple. The employment status of women is used in many important studies on specialization and divorce (Poortman & Kalmijn, 2002; South, 2001). After all, the majority of men are employed. Only in countries with a high unemployment level our proxy might be less adequate.

We examine to what extent the relationships between specialization, separation, and employment are similar across countries and to what extent they are different. It might be that in more modernized countries the effects of specialization on separation and on post-separation employment, as well as on the separation effect itself are weaker. In these countries the economic exit costs may be lower and women may take the economic gains of their partnership less into account when making the decision to separation. We elaborate on these macro-level effects later on.

2. Theory and hypotheses

We expect that role specialization, separation and post-separation employment are related. We investigate three relationships. First, we examine to what extent role specialization affects the risk of separation. Next, we assess the effect of separation on women's employment, thereby taking selection bias into account – separated women specialized less during partnership. Last, we examine to what extent role specialization during the partnership actually leads to lower employment chances after union dissolution. In analyzing this relationship, we have to consider that women do not separate at random, but may be the economic strong ones – with work oriented

personalities and values –, even those who specialized during the partnership. In the next three sections we discuss the theory explaining these three relationships and the hypotheses we derive.

2.1 The effect of role specialization on separation

Many studies have shown negative effects of role specialization on the chances of divorce. Poortman & Kalmijn (2002) for instance, found higher divorce risks for couples where the wife works more, has a higher cultural job status, has more potential labor market success, and has a better labor market position compared to her husband. Many other studies have found similar results (Brines & Joyner, 1999; South, 2001). This negative effect of specialization on divorce is often explained from an economic perspective: Role specialization is assumed to be beneficial to marriage because couples increase their household utility (income) by specializing in the tasks in which they are the most productive (compared to their partner) (Becker, 1981). Women are considered to be the most productive in doing domestic work, whereas men in performing paid work. Women (and men) are thus economic dependent upon their spouse. Hence, for women the economic costs to exit marriage are higher; outside the marriage they have less economic resources than inside the marriage. Another explanation for the negative association between specialization and divorce might be derived from a (functionalism) sociology perspective. Parsons (1949) argued that role specialization within marriage has a function: It would avoid marital conflict (because of occupational competition between spouses) and thus lower the risk of divorce. Hence, we expect the following: *The more women specialize during the partnership, the less likely they will separate (hypothesis 1a).*

Obviously, emotional and social-psychological reasons may be more important factors in women's divorce decision, outweighing the negative economic exit costs. However, given equal quality of the relationship and equal social-psychological benefits of separation, lower economic exit costs can still reduce the barrier to separate for women. Because the FFS does not allow us to control for relationship quality or satisfaction, our results may apply more to women exiting bad partnerships, and not to women exiting all partnerships, regardless of the quality (Sayer & Bianchi, 2000). Furthermore, men also have a say in the divorce decision. However, we believe that women's decision to divorce is more important because they are most often the ones who initiate the divorce (Kalmijn & Poortman, 2006).

2.2 The effect of separation on employment

Do women who separate indeed have better economic resources, thus higher employment probabilities after separation? And to what extent is this due to lower specialization? Many studies have found a positive relationship between divorce or separation and post-divorce employment (Bouman, 2005; Bradbury & Katz, 2002; Duncan & Hoffman, 1985; Finnie, 1993; Haurin, 1989; Johnson & Skinner, 1986; Peterson, 1989; Poortman & Fokkema, 2001; Van Damme et al., forthcoming), but some studies found no effect (Mueller, 2005) or a negative effect (Covizzi, 2008; Jenkins, 2008). These studies mostly looked at the changes in employment after separation. An increase in post-separation employment is explained by an income-effect. A separation implies a financial cutback for women, because of the loss of economies of scale and incomplete alimony arrangements. Especially in traditional male-breadwinner type households, women have no own income source yet and can no longer rely on their spouse's income after the split up. Women may compensate

this drop in adjusted household income after separation with an increase in employment.

That some studies find no or a negative effect may be explained by women's alternative income sources. Some women may receive welfare or sufficient alimony after divorce and thus do not need to work. Others may remarry quickly or move in with their parents or other relatives which reduces their need to work as well.

We make two important improvements upon most of these previous studies. First, our study does not only focus on the employment of the separated, but compares it with the employment of partnered women. Just focusing on the group of separated women could overestimate the observed separation effect because all women might experience an increase in employment in the measured period (for instance because of an overall rise in employment over time (or over the life cycle)). By including a comparison group, we can estimate the separation effect on employment more adequately.

Second, we take the differences in the characteristics of the two groups – the separated and the partnered – into account. If the differences between the two groups are not controlled for, the results can be (partly) due to selection bias; separated women may have specialized less, and thus have more potential labor market success. Hence, the observed separation effect can be (partly) attributed to the lower degree of specialization during the partnership of separated women. Of the studies mentioned, only Johnson & Skinner (1986) and Peterson (1989) compared divorced with married women while taking the problem of selection into account. The other studies may suffer from selection bias. Hence, it is not clear to what extent the increase in employment found in these studies is caused by divorce and to what extent women with more employment potential and taste have a higher divorce risk.

Thus, we do not only estimate the *gross* separation effect on women's employment, but also try to explain this effect by differences in the extent of specialization of separated and partnered women. We examine employment probabilities, not changes in employment (employment entry and exit), because that would seriously reduce the number of cases in the analyses. Moreover, we do not have theoretical arguments of why the mechanisms of entry and exit would differ. We formulate two hypotheses: *Separated women will be more likely to be employed than non-separated women (hypothesis 2a)* and *The separation effect decreases if we control for specialization variables (hypothesis 2b).*

2.3 The effect of role specialization on post-separation employment

In the literature, the negative influence of role specialization during marriage on women's post-divorce employment is suggested to be the underlying reason explaining the effect of specialization on divorce. Role specialization during the partnership may have a negative influence on women's post-divorce employment because specializing in domestic rather than paid work leads to depreciation of human capital. And women with lower human capital are less likely to be employed after divorce (Johnson & Skinner, 1986; Van Damme et al., forthcoming). According to Becker (1964), higher investments in education and more labor market experience result in better jobs and higher income levels. This will also apply to women's situation after separation due to two reasons: Employers prefer women who are more productive, which makes it for women with more human capital more likely to find a job after separation. In addition, more productive women get higher wages and higher wages may form a stronger incentive to be employed after union dissolution. Hence, we expect that: *The more women specialize during partnership, the less likely they*

will be employed after separation (hypothesis 3a). Note that this relationship only applies to the separated women. Thus, the empirical test of this hypothesis does not include partnered women as comparison group.

Again, we have to take selection bias into account, because it still might be the women with better labor market potential who separate. Not only human capital in terms of education or work experience give women better labor market opportunities after separation. Also personality traits like self-confidence and work values (the preference to work) provide them higher labor market potential. Hence, even women who specialized during the partnership might be the economic strong ones in terms of work orientation and personality. Not including such variables in our analyses would bias our observed effect of specialization downwards. Because these characteristics are unobserved, we use a two-step Heckman model to correct for the downward selection bias in the specialization effect on post-separation employment.

2.4 Cross-national differences in the three effects

In all countries, we expect to find all three relationships: the negative specialization effect on separation and post-separation employment, and the positive separation effect on employment. However, there might be differences in the strength of the effects. We expect to find cross-national differences due to two reasons: differences in the (actual and perceived) economic costs of separation, and differences in women's weighing of the economic exit costs in the divorce decision compared to other considerations like preferences or values.

First, we expect that in some countries modernization processes have taken place to a higher degree than in other countries. In more modernized countries, norms and values in the field of family, work, and religion are less traditional; people are

more tolerant towards divorce, adhere less to the nuclear family as the cornerstone of society, and have more egalitarian gender role norms. In such societies, traditional specialization within the household is less valued and equality in the division of household labor is more preferred. Hence, in countries with a more liberal gender role ideology, women may take the economic gains of their partnership less into account in their divorce decision. For instance, on the micro-level women with more egalitarian gender role values are more satisfied with their marriage if they divide household tasks equally with their spouse; for these women, specialization has a weaker negative, or even a positive effect on the divorce risk (Brines & Joyner, 1999; Kalmijn et al., 2007; Rogers, 2004). If we aggregate this expectation to the macro-level, we expect that in more emancipated countries the specialization effect on separation is less negative.

Second, modernization processes go together with the rise of the welfare state and increasing female employment rates. For instance, countries where divorce is more institutionalized, have on average better safety net arrangements for the divorced – like alimony and single parent allowances. In such countries the income loss due to divorce is (partly) compensated for by other income sources than income from labor. State income support provides safety nets for divorced women without an own income source (Uunk, 2004) and reduces the necessity to work after divorce (Van Damme et al., forthcoming). Therefore, in countries with better institutional arrangements for divorced women, the financial exit costs are lower. This does not only apply to the *actual* economic costs, but also to the *expected* costs (as perceived by partnered women). Therefore, women in countries with more generous institutional support are more likely to divorce or separate, also those who were specializing during the partnership. As a result, the selection of women with separation-prone

characteristics into employment reduces; there is less upward bias in the separation effect on employment.

We expect a similar contextual effect of the female employment rate, which increases the likelihood to find a job after separation. This may lead to lower actual and perceived economic exits costs for women (South, 2001); even non-specializing partnered women may expect to find a paid job to compensate their income loss, should they separate. Hence, in countries with a higher female employment rate, we expect weaker effects of specialization on separation and of separation and specialization on post-separation employment.

The divorce rate may also affect the strength of the relationships between specialization, separation, and employment. According to Goode (1993) the divorce rate reflects which groups of women are more likely to divorce. In countries with a low divorce rate, the economic costs of divorce are (perceived) higher than in countries with a high divorce rate. Not only because in such societies the state provides better safety nets for the divorced, but also because divorce is less stigmatized. Support of family and friends, and finding a new partner after divorce are more likely in societies where divorce is less disapproved. Thus, in countries with a low divorce rate, only the 'elite' class (those who did not specialize during marriage) divorces; those who can afford it. On the contrary, in countries with a high divorce rate also women of the lower classes divorce. Hence, in these countries the effect of specialization on separation will be lower. This also weakens the selection bias in the separation effect on employment.[1]

[1] It is unclear however, to what extent specializing women in higher divorce countries have less severe economic consequences and hence, to what extent their employment probabilities are higher. Even though the economic costs of divorce may be *perceived* as lower before the divorce (many more women divorce, so for non-divorced women the post-divorce situation may seem a relatively 'rosy picture', the *actual* economic costs after divorce may be higher than expected.

In sum, we expect to find differences in the strength of the three effects between more and less 'modernized' countries. The more 'modernized' a country is – the higher the divorce and female employment rate, the institutional support, and the emancipation of its citizens –, the weaker the effects: *The more 'modernized' a country, the less negative the specialization effect on separation is (hypotheses 1b)*; *The more 'modernized' a country, the less positive the separation effect on post-separation employment is (hypotheses 2c)* and *The more 'modernized' a country, the less negative the specialization effect on post-separation employment is (hypotheses 3b).*[2]

3. Method

3.1 Data

We use the retrospective data of the Fertility and Family Surveys (FFS), which include information on fertility, family, education, and occupational histories. The data collection took place between 1988 and 1999 in 24 countries and was coordinated by the Population Activities Unit (PAU) of the United Nations Economic Commission for Europe (UNECE). Between 1700 and 10,500 women (on average around 4000) per country were interviewed. The country surveys differ in the age groups that were sampled. Most countries interviewed women of age 18 through 49.

[2] It would also be interesting to disentangle the effects of divorce rate, employment rate, institutional support, and gender role norms. However, with 10 countries we do not have enough power to estimate these effects. Moreover, these macro-level factors are highly correlated (see Table 2). It is therefore more interesting to look at the 'package' of these measures as indicators of modernization.

Moreover, in Norway and Sweden single year birth cohorts were sampled.[3] We do not select specific cohorts or age groups in most of our analyses, because we control for age and year (and thus indirectly for cohort) in our models. However, for the descriptive figures and the estimation of the separation effect on employment, we do select women aged 18 to 49 to enhance cross-national comparability. For a detailed discussion of comparability issues, see Festy and Prioux (2002).

Using the retrospective information of start and end dates (year and month), we created per country a person-month file including the histories of partnerships, employment spells, occupations, education, and children starting at the birth of respondents and ending at the time of interview. We have comparable information on all four histories for at least 10 countries (see Table 1) (more countries may be added in a later stage).

Our sample of analysis consists of married/cohabiting and divorced/separated women aged 18 and older who were not in full-time education. In total our dataset consists of 33,634 women and on average 13 years per woman (see Table 1 for the number of cases and person-months per country). To keep the analyses simple, we only consider first marriages or cohabitations and, if relevant, their separations. For the separated women we also include the period after separation whether they were repartnering or not. However, spells after a separation transition of a repartnered woman (i.e. a second separation transition) are censored. Spells after a transition into widowhood are censored as well.

[3] In both countries birth cohorts five years apart were interviewed. For example, in Sweden in the years 1949, 1954, 1959, 1964, 1969. Women born in these years are assumed to be representative for the entire five-year birth cohort they belong to.

3.2 Analytical approach and measures

We perform three analyses on our constructed person-month file. First, we estimate the effect of role specialization on separation by a discrete-time event history model. The dependent variable is the log odds of separation conditional on being at risk of separation. Women are censored at the separation transition or at the time of interview. We define *separation* as a transition from marriage or cohabitation in one month (t_{-1}) to not living as a couple in the subsequent month (t_0) due to divorce or separation. These data are derived from retrospective questions on the start and end dates of partnerships (the partners had to be living in the same household). *Role specialization* during partnership[4] is the main independent variable for which we use four (time-varying) summary measures: (1) Women's *work partnership history*: the percentage of months a woman was working at a particular moment during the partnership[5]; (2) Women's *fertility partnership history*: the percentage of months a woman had a child living in her household at a particular moment during the partnership[6]; (3) *Duration of partnership*; and (4) Being *married*. The first two indicators are the most direct measures of specialization in domestic work, whereas the last two are related to it. We assume that the more time women spend on working during the partnership and the less time they spend on taking care for their children (i.e. having children in the household), the less they specialize and the less their human capital depreciates. Moreover, the longer the partnership lasts, the more time women spend on domestic work and the more their human capital diminishes.

[4] With partnership we refer to the period in which respondents were living together in the same household with their partner (whether they were married or cohabitating).
[5] This measure is created by a meter counting all the months a woman was in employment during the partnership. The meter starts running when an employment spell starts and remains unchanged during non-employment spells. Per month, we divided the score on the meter by the partnership duration in that particular month. Moreover, we included a penalty for part time work (less than 35 hours); the meter adds half a month instead of one month if a woman was in part time employment.
[6] Created in the same way as the work history measure, but now the meter changes every month there is at least one child in the household and remains unchanged when there are no children.

Furthermore, married women specialize more than cohabiting women (Brines & Joyner, 1999; Kalmijn et al., 2007) (see Table 1 for the definitions, means and standard deviations of the variables).

[table 1]

Second, we investigate the separation effect on employment status comparing partnered and separated women. We perform a logistic regression analysis on the person-month file with the probability of being employed as the dependent variable. We start with an empty model to estimate the gross separation effect and then add specialization variables to explain the effect. We use a random-effects model to take into account the dependency of monthly observations per person. *Employment status* (employed or not) is created from a retrospective question on start and end dates of paid employment of at least three consecutive months. Women performing unpaid work are considered to be unemployed. In this analysis *separation* is not an event variable, but a status variable (time-varying), created from the partnership history. Role specialization is measured somewhat differently than in the previous analysis.[7] We consider the *work* and *fertility history* of women during the *first five years* of the partnership (time-constant). Furthermore, we do not include the duration of partnership (see note 9). We will also perform a fixed effect model to estimate the separation effect even more adequately by taking unobserved differences in specialization, but also personality traits and work preferences into account. This enables us to specify to what extent selection is an important issue in our study and for which countries this is the most relevant.

[7] Partnership duration for instance, remains time constant after the separation, while for a partnered woman the meter of partnership duration continues running.

Third, we examine the effect of role specialization during the partnership on post-separation employment, using the *sample of separated women*. We use again a random-effects logistic regression analysis with the probability of being employed in the period after separation as dependent variable. For each woman, each month after separation is a separate record. *Role specialization* is measured similarly as in the first analysis where we estimate the specialization effect on separation, but now the variables are *time constant* because they all refer to the partnership period before the separation (see Table 1). The time (in years) since separation is also included in the model. Furthermore, we use two other measures for role specialization: the average *job status* during partnership and to what degree the respondent is a *career woman* (the average change in job status during the partnership). Both are measured using the International Socioeconomic Index (ISEI) score (recoded from the first two digits of the ISCO88). The average ISEI and ISEI change during partnership are computed only over the periods respondents were employed.

As explained in the theoretical section, also unobserved differences in work values and personality traits (like self-confidence) may be relevant. To correct for this selection bias, we perform a two-step Heckman approach. First, we estimate the probability of a separation transition by a probit model (the selection model). Next, we perform a random-effects logistic regression on the probability of being employed after separation including the separation probability (predicted in the probit model) as an independent variable. By including this latent trait, the bias in the effects of specialization on post-separation employment due to selection bias is diminished (Heckman, 1979). The selection model needs to include at least one identifying variable which affects the probability of separation, but does not affect the probability of being employed. As identifying instrument we use parental divorce: whether the

respondent's parents ever separated or divorced. We also include two dummy's measuring whether the parental divorce occurred before or after age 18 of the woman.

Fourth, we pool the countries and test to what extent the three relationships are similar across countries. In case of significant differences between countries, we estimate to what extent the three effects are weaker in more modernized countries. Indicators for modernization are a high divorce rate, liberal gender role norms, high employment rates, and high institutional support for the divorced (see Table 2).

[table 2]

3.3 Control variables

In all analyses we control for education, age, year, and the age of the youngest child. The *highest level of education* (time constant) is measured at the time of interview in 7 ISCED categories, ranging from 0 ('Preceding first level') to 6 ('Third level, second stage, postgraduate'). We include the variable as interval variable, with not classifiable levels coded as missing. *Age* (centered) and *year* (centered) are measured in years. We control for *age* and *year squared* to take curve linear relations into account. Year may reflect all kinds of changes over time within a country, such as changes in the employment and divorce rate, institutional support, and gender role norms. The *age of the youngest child* in the household is a time-varying variable. We include 2 dummy's: 1. the youngest child is under 6 years old; 2. the youngest child is 7 through 17 years old. Women without children, with an empty nest, or with children of at least age 18 form the reference category.

In the analysis of the separation effect on employment, *repartnering* is coded as a cumulative contrast with separation; We created three groups: 1. partnered;

2. separated and not repartnered 3. separated and repartnered. Subsequently, we created two dummy's (1 (0) vs. 2 + 3 (1)) and (1 + 2 (0) vs. 3 (1)).

4. Preliminary results

4.1 The effect of role specialization on separation

[to be included: discrete-time event history model of the risk to separate]

4.2 The effect of separation on employment

Descriptives

In figure 1 the employment rates of partnered (married and cohabiting) and separated women per country are presented. We first concentrate on the figure for Austria. The solid (upper) line shows the change in the employment rate for an average separated woman in the period before and after separation. The scale (upper x-axis) is the average duration of the partnership of separated women (before the separation) and the same period of time after the separation. We compare this line with the change in employment rate during the partnership of an average partnered woman (dashed line) with twice the partnership duration of a average separated woman (scale on bottom x-axis). In Austria, the employment rate fluctuates around 0.51. We have corrected the yearly employment rates for the trend over time.

The figure shows that women on average moderately increase their employment after the month of separation and decrease it slightly in the long term. Salient is that the employment rate of separated women is significantly higher than

that of partnered women already before the separation. Hence, in Austria separation is clearly a selective phenomenon; women only seem to separate when they can afford it, when they are employed, thus when they specialized less during their partnership.

Next, we observe that women increase their employment already *before* the separation. There are three possible reasons for this. First, women might anticipate a separation by investing in their human capital through increasing their work experience to compensate for the upcoming income loss after the split up (Johnson & Skinner, 1986; Poortman, 2005). Secondly, women who increase their employment may separate more often. However, we do not believe selection is a plausible reason for the small increases in the recent months before separation, because this would be a very quick effect of wive's work on separation. Third, women around separation might be in life stages in which they on average increase their employment. Many partnered women decrease their employment when they have children and increase it when the children get older (a clear sign of this relationship is represented by the figure of CZ). Women are most likely to divorce when they do not have children or when the children get older (Brines & Joyner, 1999). Hence, the months before the separation cover a period in which also partnered women would be more employed.

[figure 1]

Comparing all the country figures, we see a clear increase in post-separation employment in Italy and Spain. In Sweden, Finland, and Slovenia (next to Austria) the increase in employment is modest, while in the other countries we do not observe a change at all, at least not in the short term.

Furthermore, the pictures show that separation is highly selective in terms of employment in Italy, Spain, and Greece, while in the other countries the employment rate of separated women differs less from that of partnered women. In Latvia and Hungary we do not observe differences between the two groups at all. At first glance, selection seems to be higher in countries that are less modernized. However, Finland, Sweden, and the Czech Republic are an exception with high overall employment and divorce rates, but also significantly higher employment rates for separated women compared to partnered women.

Additionally, Sweden and Finland show (next to Austria) possible anticipation effects – meaning employment increases just before the separation. The causality of the effects remains unclear, however. It could also be that separated women in these countries were on average more in life stages in which they would have increased their employment anyway, even if they were to remain partnered.

In sum, the differences in employment rates between separated and partnered women might (partly) be caused by selection (and marginal anticipation) effects. The selectivity of separated women might be twofold: On the one hand they can differ on overall (static) characteristics (they specialized less during the partnership) and on the other hand they can be in a different stage of their life course (in which also partnered women specialized less).

Estimation of the net separation effect on employment

Using random effects logistic regression analysis comparing partnered with separated (and repartnered) women, we can estimate the (gross) effect of separation on employment. Furthermore, we can analyze to what extent selection bias in specialization during the partnership can explain the separation effect. Preliminary

analyses (not presented) show that separated women are more likely to be employed than non-separated women in all countries. Repartnering decreases the probability to be employed, however. Controlling the model for education and life course characteristics reduces the effect of separation in most of the countries. This seems to be mainly due to selectivity bias with regard to the age of the youngest child. Separated women less often have young children than partnered women, and women with young children are less likely to be employed. This also matches with most of the pictures in figure 1: A relatively straight or increasing line for the separated and a U-shaped line for the non-separated women.

The age of the youngest child has a negative effect on women's employment probability. In all countries, women with a child between 7 and 17 years old are less likely to be employed than women without dependent children. Women with a child under age 6 are the least likely to be employed. We have to do further analyses to estimate to what extent role specialization during the partnership explains differences between partnered and separated women's employment.

4.3 The effect of role specialization on post-separation employment

In table 3, we present the estimates of the effect of role specialization during the partnership on women's post-separation employment. First of all, women's work history during the partnership has the expected effect. The less women specialized during their partnership, the higher their employment chances after separation. In the US for instance, the odds of employment increase with 1.06 [exp(0.057)] for every percent of their partnership they worked more. We find these effects for every country even when controlling for the effects of more general human capital variables like

education and job status. We have to note, however, that these large effects may be largely caused by stable differences between employed and non-employed women at the time before separation. In a new version of the paper we will do separate analyses for women who were working and those who were not working before separation.

We find mixed effects of the other measures of specialization on women's post-separation employment chances. We do not find the expected effect of the fertility history measure; in many countries the direction of the effect is even contrary to our expectations. This is not due to the fact that we also include the current age of the children in the household, which already has a strong negative effect, because in all countries the bivariate effect of fertility history on employment is not significant. What might be a reason for the insignificant effect is that the FFS does not have many women in the 'empty nest phase' due to the young age sample. Research on data for older age groups might reveal whether empty nest women who had children in the household for the most part of the union have lower employment probabilities than those who had children much later in their partnership. Because we control for the current age of the youngest child, we are in fact measuring the timing of the first birth: the sooner women give birth to their first child, the sooner they might stop working which depreciates their human capital. However, some women (especially career women who worked more during their partnership) might have postponed cohabitation, and marriage in order to finish their education (and make a career) (Blossfeld & Huinink, 1991). Because of biological reasons and normative pressure these women – who are older when they marry – may get children relatively early in the partnership.

A second reason for the positive or insignificant effects of women's fertility history during partnership on post-separation employment may be that the effect is

only relevant for women who were specializing (did not work for a long period during their union). For them the effect of having children early in the partnership might be a restriction for their employment opportunities after separation. Separated women who specialized less during their partnership, had less human capital depreciation and may have other unmeasured characteristics (personality and preferences) that increase their odds of being employed. Hence, a next step to improve our models is that we do separate analyses for women who worked and those who did not work before the separation. For some countries we already did this and we found that for non-working women the timing of the first child birth has the expected negative effect.

A last reason for the unexpected effect of women's fertility history may be that we did not yet correct for the downward selectivity bias in the specialization effect. Even women who did specialize and had children in the household for a long period during their partnership, can be the economic strong ones. They may be more self-confident and more work oriented, for instance. In a new version of the paper, we will use a Heckman model to correct for this.

Furthermore, we do not find a negative effect of the duration of the partnership and of marriage in most countries. Women who were married before the separation are not less likely to be employed after separation. In Sweden, Hungary, Austria, and Italy, the direction of the effect is in the expected direction however. Again, we have to await further analyses to draw conclusions from these findings.

The average job status during partnership has the expected effect. The higher the job status a separated women had during her partnership, the more likely she is to be employed after separation. Whether a woman was a 'career woman' does not have a significant influence on a woman's employment probability after separation. Education and the age of youngest child have the predicted effects. Higher educated

women and women with no children or older children have higher chances to be employed after separation.

[table 3]

4.4 Cross-national differences in the effect of specialization

The effect of specialization during the union as measured by women's work history seems to be weaker in modernized countries – we as expected. Higher employment rates, more generous income support for the divorced, and less stigmatization – more persons who divorce – are associated with more equal opportunities to be employed after separation, for both non-specializing and specializing women. Figure 2 shows this negative relationship between the degree of modernization in a country and the effect of specialization on women's post-separation employment.

[figure 2]

In a new version of the paper we will add 8 countries, pool all 18 countries and test with a multivariate model to what extent the degree of modernization affects the influence of role specialization on women's post-separation employment.

5. Conclusion and discussion

To be written after further analyses have been done.

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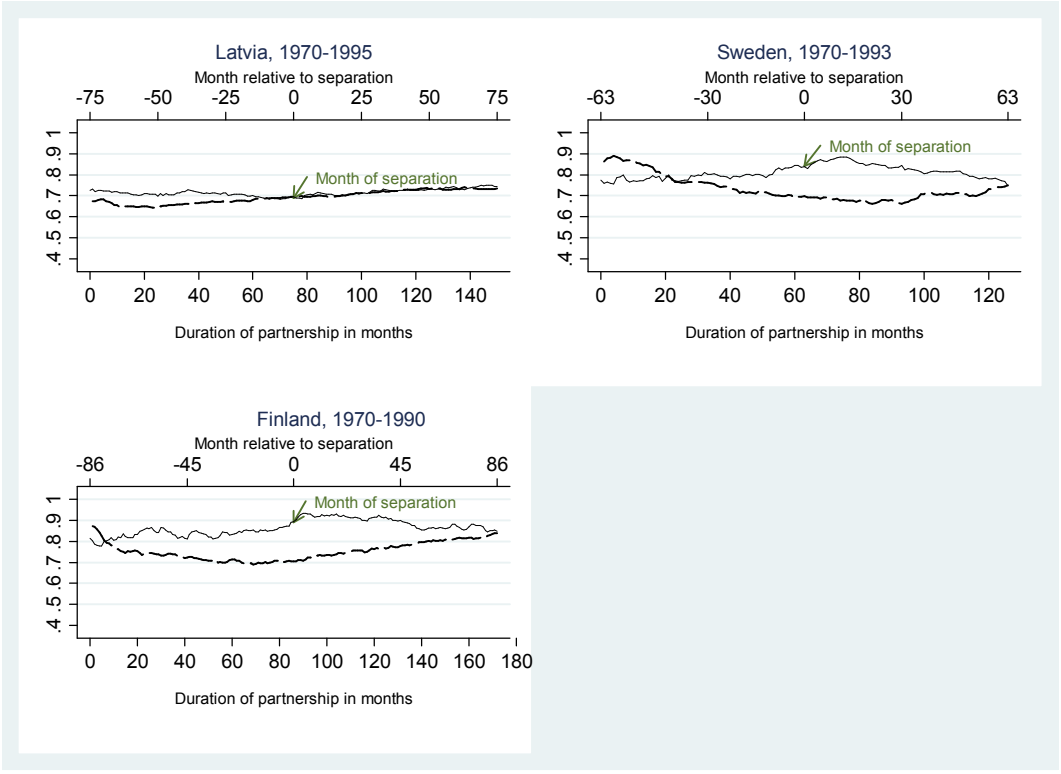
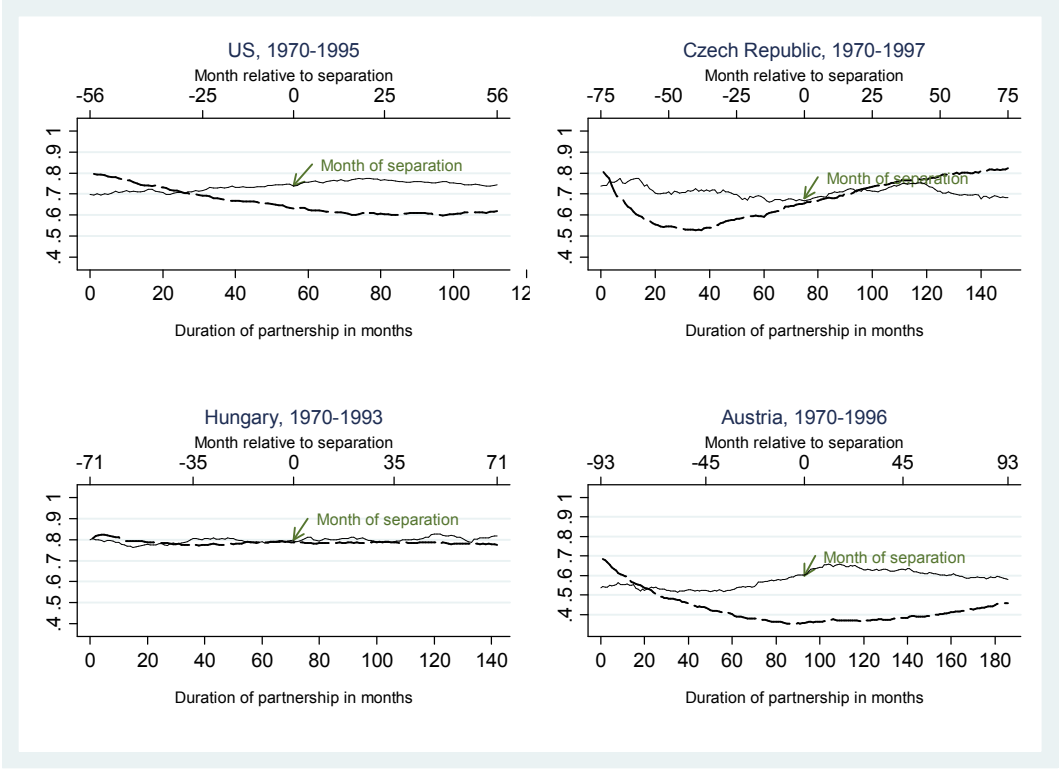
Figures

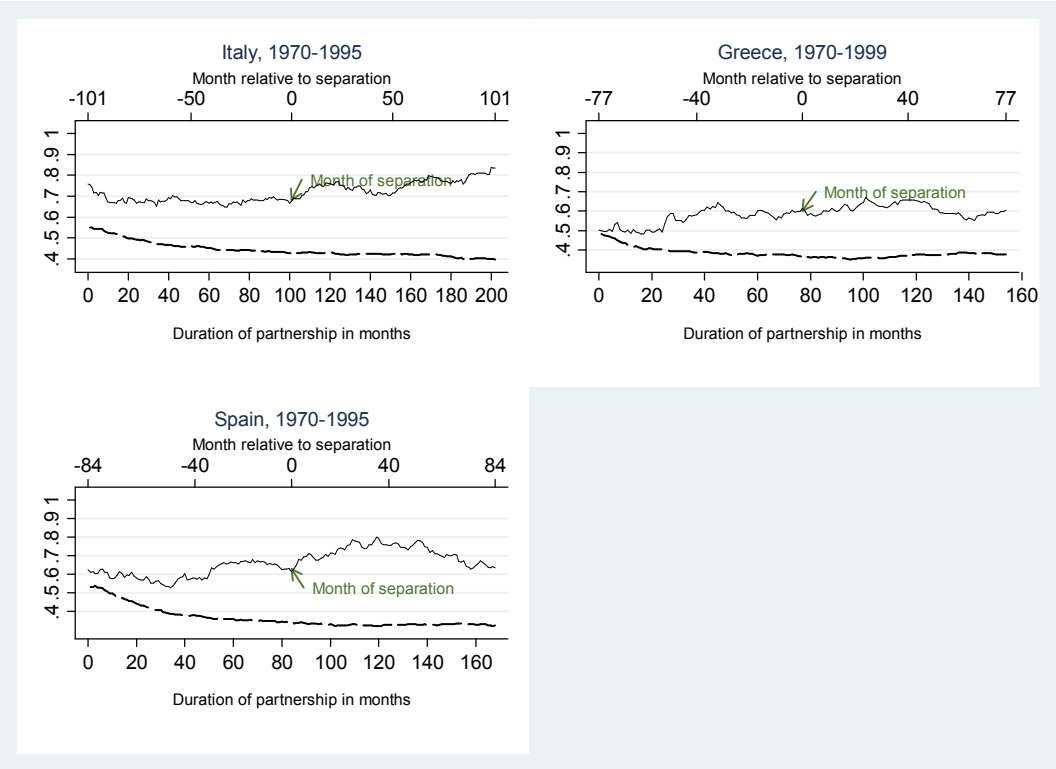
Figure 1. Employment of average separated and non-separated women





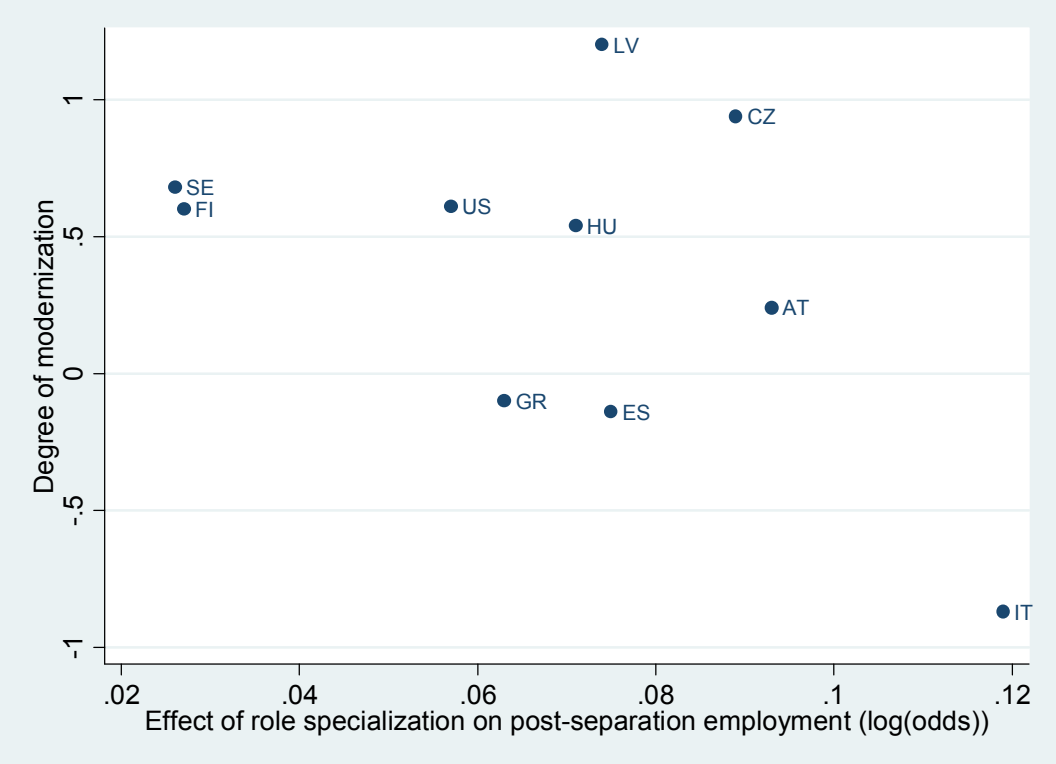
Note: only first separations; women aged 18-49 and not in full-time education; repartnered women included; employment rates adjusted for yearly trend; SE age<44, US age<45, CZ age<45, HU age<42

Figure 1. (continued)



Note: only first separations; women aged 18-49 and not in full-time education; repartnered women included; employment rates adjusted for yearly trend; SE age<44, US age<45, CZ age<45, HU age<42

Figure 2. The relationship between the degree of modernization (preliminary index: mainly covering the divorce and employment rate) and the effect of specialization on post-separation employment, 1970-1999



Tables

Table 1. Number of cases, definitions, means, and standard deviations of dependent and independent variables, 10 countries, 1957 – 1999, women aged 18-49

	Definition	LV	SE	FI	US	CZ	HU	AT	IT	GR	ES
Persons		2314	3007	3706	8017	1371	2976	3900	3321	2172	2850
First separations		729	1115	889	3772	341	554	952	208	222	216
% first separations		32	37	24	47	25	19	24	6	10	8
Person months		362,092	380,673	592,436	965,303	190,675	369,781	688,998	539,063	372,381	428,608
Dependent variable 1	*Separation risk*										
Separated	Whether not living together with partner anymore due to separation or divorce (time-varying)	0.32	0.37	0.24	0.46	0.24	0.19	0.24	0.06	0.09	0.08
Role specialization	(time-varying)										
Work history during partnership [a]	Percentage of months a woman was working during the partnership (includes a penalty for part-time work)	76 (33)	59 (31)	63 (31)	56 (40)	63 (36)	81 (32)	54 (38)	37 (41)	34 (38)	36 (39)
Fertility history during partnership	Percentage of months a woman had a child living in her household during the partnership	55 (32)	30 (33)	47 (36)	40 (38)	57 (33)	50 (38)	52 (37)	52 (33)	53 (32)	51 (32)
Duration partnership (0-423)	Duration of marriage and/or cohabitation (in months)	69 (45)	63 (44)	79 (48)	52 (41)	66 (41)	64 (38)	82 (53)	88 (54)	89 (51)	76 (44)
Married	Whether married or not	0.86	0.42	0.75	0.74	0.86	0.90	0.74	0.95	0.91	0.92
Dependent variable 2	*Employment probability of separated and partnered women*										
Employed	Whether in paid employment or not (time-varying)	0.80	0.75	0.75	0.67	0.68	0.85	0.51	0.46	0.40	0.38
Role specialization	(time-constant)										
Work history first 5 years of partnership [a]	Percentage of months a woman was working during the first 5 years of partnership (includes a penalty for part-time work)	75 (35)	58 (33)	61 (34)	56 (42)	58 (39)	80 (34)	53 (40)	36 (43)	32 (40)	35 (40)
Fertility history first 5 years of partnership	Percentage of months a woman had a child living in her household during the first 5 years of partnership	60 (33)	29 (35)	47 (38)	41 (39)	62 (35)	55 (34)	51 (39)	53 (34)	52 (35)	54 (33)
Dependent variable 3	*Employment probability of separated women*										
Employed	Whether in paid employment or not (time-varying)	0.82	0.79	0.86	0.71	0.72	0.85	0.63	0.71	0.60	0.63
Role specialization	(time-constant)										
Work history during partnership [a]	Percentage of months a woman was working during the partnership (includes a penalty for part-time work)	78 (33)	56 (35)	66 (34)	55 (42)	63 (37)	79 (35)	57 (40)	49 (42)	42 (42)	47 (39)
Fertility history during partnership	Percentage of months a woman had a child living in her household during the partnership	56 (38)	28 (38)	48 (42)	42 (43)	60 (38)	48 (40)	49 (41)	47 (42)	36 (41)	46 (39)
Duration partnership (0-393)	Duration of marriage and/or cohabitation (in months)	75 (62)	63 (60)	86 (73)	52 (55)	74 (62)	70 (58)	91 (74)	100 (76)	70 (71)	81 (69)
Married before separation	Whether married before separation or not	0.84	0.26	0.63	0.59	0.82	0.84	0.64	0.82	0.67	0.69

Note: standard deviations not reported for dichotomous variables; means are averages over person-months per woman.

[a] *For Austria, this measure does not include a part-time penalty because the number of working hours were only asked for the most recent job spell.*

Table 2. Measures indicating modernization in the field of divorce and employment

	Minimum Income Protection (1)	Child maintenance (1)	Guaranteed child maintenance (1)	Divorce law (2)	Crude divorce rate (2)	Gender role norms (3)	Employment rate (4)	Degree of modernization
Latvia (LV)				2.00	3.31		90.45	1.20 [b]
Czech Republic (CZ)					2.44		88.60	0.94 [b]
Sweden (SE)	13305	135	90	2.67	2.13		*78.96* [a]	0.68
United States (US)	8668	575	0	2.00	4.54		61.78	0.61
Finland (FI)	13112	150	70	2.33	2.18		78.96	0.60
Hungary (HU)				2.00	2.43		74.09	0.54 [b]
Austria (AT)	8957	550	105	2.00	1.90		62.13	0.24
Italy (IT)	10625	0	0	1.00	0.37		48.77	-0.87
Greece (GR)		0	0	1.33	0.69		43.33	-1.01
Spain (ES)	6152	0	0	0.33	0.74		41.18	-1.41

[a] For Sweden, the employment rate is set equal to Finland. The employment rate has to be computed.
[b] For these countries we could not find data on institutional support (yet). Hence, the degree of modernization in these countries is only based on dimensions 2 and 4.
(1) Institutional support for single mothers / divorced women.
(2) Acceptance and institutionalization of divorce
(3) Norms on gender roles
(4) Employment rate
Definitions:
Minimum Income Protection for lone parents (including child, housing and other supplements, as well as refundable tax credits); PPP; Average amount of period 1990-1999. Source: SaMip
Child maintenance: formal child maintenance liabilities (amount that will be paid by fathers with 1.5 average income who want to divorce from mothers with average part-time income, having 2 children, 5/6 and 9 years old); £ppp/month; 1997. Source: Corden (1999, p. 34, Vignette B); US: Corden & Meyer (2000).
Guaranteed child maintenance: relative value of advance maintenance; £/month/child in PPP; 1997. Source: Corden (1999, p. 45).
Divorce legislation: 4 categories: 0. Divorce not permitted; 1. Divorce permitted on the grounds of fault, hard and lengthy process; 2. Divorce permitted on mutual consent, prolonged separation; 3. Unilateral no-fault divorce, very short waiting time; Average score of period 1970-1990. Source: Harkoenen and Dronkers, 2006.
Crude divorce rate: annual number of granted divorces per 1 000 mid-year population: Average rate of period 1970-2000. Source: UN Demographic yearbook (1976-2004).
Gender role values: [pm. To be calculated from ISSP88-94-98].
Employment rate: Age standardized employment rates women 20-50; Average rate of period 1970-2000. Source: UN Statistics Division
Degree of modernization : Average of standardized scores on 4 dimensions: 1. institutional support (MIP, alimony, guaranteed alimony); 2. institutionalization of divorce (divorce law, divorce rate); 3. gender role values; 4. employment rate. [pm. Preliminary calculation is done on 3 dimensions or 2 (if data on institutional support are lacking), excluding gender role values]
[Note : this table gives a very rough indication. The calculations of the indicators are not finalized yet]

Table 3. Random effects logistic regression analyses of the odds of employment for separated women, 10 countries, 1955 – 1999

	LV	SE	FI	US	CZ	HU	AT	IT	GR	ES
% worked in partnership [a]	0.074***	0.026***	0.027***	0.057***	0.089***	0.071***	0.093***	0.119***	0.063***	0.075***
% children in partnership	-0.008	0.017***	0.014***	0.000	0.027**	0.022***	0.028***	0.028**	0.009	0.003
Duration partnership	0.002	0.008***	0.006**	-0.001	-0.001	-0.003	0.009***	-0.002	0.024***	0.014**
Married before separation	0.461	-0.362	0.058	0.797***	0.005	-0.374	-0.532	-0.827	1.672	0.182
Job status in partnership	-	-	0.025**	-	0.035	0.109***	-	-	0.045*	0.044*
Career woman	-	-	-0.015	-	0.008	0.012	-	-	0.012	-0.021
Year (centered)	0.214***	0.003	0.092***	0.091***	-0.138***	0.446***	-0.082***	-0.188***	0.099*	-0.123*
Year (centered) ^{2}	-0.018***	0.001	-0.001*	-0.003***	0.001	-0.031***	0.002***	0.006***	-0.005***	-0.004*
Age (centered)	0.443***	0.255***	0.219***	0.261***	0.570***	-0.343***	0.039*	0.578***	-0.172***	-0.368***
Age (centered) ^{2}	-0.015***	-0.010***	-0.008***	-0.007***	-0.017***	0.011***	-0.002***	-0.018***	0.001	0.006***
Repartnered	-1.085***	-1.049***	-1.797***	-0.750***	-0.774***	-0.778***	-1.382***	-0.197	-0.373***	-1.209***
Youngest child 0-6	-0.871***	-2.741***	-2.723***	-1.845***	-2.768***	-0.738***	-3.760***	-0.989***	-1.194***	0.320*
Youngest child 7-17	-0.534***	-1.265***	-1.194***	-1.005***	-0.742***	-0.506***	-1.569***	-1.081***	-0.532***	0.728***
Educational level	1.551***	0.178**	0.233*	0.761***	0.572*	0.545*	0.090	2.162***	1.416***	0.978***
In part-time education	-0.128	-0.773***	-0.603***	0.320***	1.925***	4.408***	-4.791***	-2.202*	-1.516*	1.046***
1 Year after separation	0.169*	0.215***	0.280***	0.228***	0.435***	0.201*	0.469***	0.837***	0.604***	1.064***
2 Years after separation	0.290***	0.214***	0.272***	0.133***	0.490***	0.361***	0.605***	0.753***	1.007***	2.059***
3 Years after separation	0.086	0.180**	0.377***	0.006	0.627***	0.794***	0.705***	0.453**	1.591***	2.449***
4 Years after separation	0.064	0.266***	-0.007	-0.202***	0.109	1.510***	0.723***	0.513**	1.199***	2.953***
5 Years after separation	-0.016	0.230**	-0.043	-0.240***	-0.115	1.095***	0.673***	1.150***	1.143***	2.966***
6 Years after separation	0.000	0.373***	-0.024	-0.389***	-0.638**	1.637***	0.597***	1.137***	1.499***	3.000***
7 Years after separation	-0.066	0.511***	-0.170	-0.524***	-0.554**	1.936***	0.601***	1.483***	1.896***	3.284***
8 Years after separation	-0.358*	0.632***	-0.570***	-0.742***	-0.747**	1.873***	0.760***	2.150***	1.753***	3.518***
9 Years after separation	-0.291*	0.463***	-0.552***	-0.971***	-0.588*	1.428***	0.591***	2.327***	2.101***	4.214***
10 Years after separation	-0.495**	0.993***	-0.481***	-1.139***	-0.329	0.469	0.637***	2.009***	3.045***	4.977***
Constant	-5.361***	-0.114	-0.207	-3.746***	-6.146***	-2.790**	-2.459***	-10.813***	-9.015***	-2.255*
Chi-square (df)	3433 (23)***	5097 (23)***	3446 (25)***	8180 (23)***	1374 (25)***	1333 (25)***	6666 (23)***	946 (23)***	580 (25)***	698 (25)***
Sigma person level	5.585***	2.538***	3.368***	4.365***	5.505***	5.418***	5.528***	6.892***	5.160***	4.349***
Rho	0.905***	0.662***	0.775***	0.853***	0.902***	0.899***	0.903***	0.935***	0.890***	0.852***
N (first) separations	719	998	832	3476	317	508	899	204	168	213
N person months	73632	85197	78185	281920	27582	42008	91998	16951	20268	16377

*Unstandardized coefficients; * P < 0.05; ** P < 0.01; *** P < 0.001, one-tailed tested.*

[a] *For Austria, this measure does not include a part-time penalty because the number of working hours were only asked for the most recent job spell.*