Women's relative earnings in the couple and union dissolution risk in Europe

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Introduction

In many countries, the crude divorce rate nearly doubled in the second half of the 20th century. Divorce rates increased much in parallel with women's labor market participation and were associated with women's better education and increasing earnings that guaranteed more financial independence from the spouse. In recent decades, the educational imbalance has reversed in favor of women in many advanced countries. This trend has resulted in an increasing number of marriages where the wife is more educated than the husband (Esteve et al. 2012, Grow and Van Bavel 2015, Esteve et al. 2016). Women's higher relative education in the couple is likely to lead to a higher proportion of families where the woman earns more than the man (Klesment and Van Bavel forthcoming). At the same time, the former pattern of positive association between education and divorce seems to have weakened (Matysiak et al. 2014) and the connection between educational hypogamy and higher dissolution risk is disappearing (Schwartz and Han 2014). Analogously to the lower importance of education for divorce, it has been shown that the once positive relationship between women's relative earnings and divorce may not hold any more (Schwartz and Gonalons-Pons 2016). In this paper we investigate how women's relative earnings and education, compared to her male partner, are associated with the union dissolution risk in Europe.

Background

Micro-economic theory predicts that unions are less stable when women are employed as this reduces the gains from gendered specialization and exchange within marriage (Becker 1981). When women were less educated than men, they were less likely to be employed whereas men specialized on paid jobs. This resulted in women's financial dependence on men. As women have become better educated, they are more likely to be in paid jobs and therefore less financially dependent on their spouse and have less to lose from divorce.

Empirical evidence about the micro-economic argument (the independence hypothesis) is mixed. Education, one of the main predictors of income, is not always positively related to divorce. Within Europe, depending on the country, the educational gradient of divorce has varied from negative to positive (e.g. Härkönen and Dronkers 2006; Jalovaara 2013), but it seems that the positive effect of education on divorce has become weaker (Matysiak et al. 2014). With regard to women's income, the evidence varies as well (for review see Sayer and Bianchi 2000; White and Rogers 2000). Some studies of Europe have found support to the micro-economic argument, showing that women's employment and earnings are positively associated with divorce risks (Jalovaara 2003; Kalmijn 2007). The variety of empirical results may be due to how women's income is operationalized in analyses, i.e. either it is included as absolute value or relative to the husband's income (Sayer and Bianchi 2000). Moreover, the once functioning associations with education and income may have eroded over time (Schwartz and Gonalons-Pons 2016).

From another perspective, the gender norms argument views marriage not so much as a mechanism of exchange, but as an institution governed by norms and individuals' attitudes. Research on the US has shown that women may avoid earning more than their partner in order to meet the expectations of the male-breadwinner norm (Bertrand et al. 2015). While some studies of relative income have reported a positive association between the woman's relative income and dissolution (Heckert et al. 1998; Jalovaara 2003; Kalmijn et al. 2007), others find no association or

point out that the importance of relative income is much reduced when predictors such as marital satisfaction are considered (Greenstein 1990; Sayer and Bianchi 2000).

Both the independence hypothesis and the gender norms argument predict a positive association between women's income and the risk of separation. Our basic hypothesis, therefore, is that in our analysis higher relative income and higher relative education are linked with increased risk of union dissolution. Since education is not always a direct predictor of income, for example due to reduction in earnings following motherhood, we will consider both variables instead of only income. We also aim to investigate whether the two display any interaction effects.

Data and methods

European Statistics on Income and Living Conditions (EU-SILC) collects information on current income and housing conditions. We combine longitudinal data from different survey waves following Berger and Schaffner (2015), covering the years 2004–2012. Countries included are Austria, Belgium, Estonia, Cyprus, Czech Republic, France, Greece, Hungary, Iceland, Italy, Latvia, the Netherlands, Norway, Poland, Slovenia, Spain, Sweden, and the UK. Then, from the overall EU-SILC sample we select women who are in a couple or form a couple during the survey. We restrict the sample to couples with a female partner aged between 25 and 50 years. Since we want to estimate the effect of relative earnings, at least one of the partners must have earned income during the survey to be included.

The event of union dissolution is drawn from survey variables that indicate partner linkage, household membership status, and individual's time of exit from the household. We create a binary dependent variable to indicate for each year whether the partnership is ongoing or has been ended. As a result, in the study sample we observe almost four thousand separation events per 115,733 couples in 18 countries.

Our main independent variables are based on both partner's level of education and gross yearly earnings from labor. The variable of relative education indicates whether the woman is lower (hypergamy), higher (hypogamy), or similarly (homogamy) educated compared to her male partner. The woman's relative earnings are lagged by two years from the appearance of dissolution to avoid anticipatory effects (Poortman 2005; Özcan and Breen 2012) and calculated as the percentage she contributes to total joint earnings of the couple (from 0 to 100%). For regression analysis we categorize this variable into five groups (0-10%, 10-25%, 25-50%, 50-75%, 75-100%).

We apply logistic regression with individual-level random effects to model the separation event. Since we do not know the time when the union is formed, it is not practical to apply survival analysis. Instead, we employ a binary model with panel setting which takes into account that individuals appear more than once in the data.

Results

Both descriptive results (not shown here) and regression models (Table 1) suggest that, on average across countries, women's relative education and relative income in the couple are both positively associated with the risk of union dissolution. Controlling for relative earnings, women in hypogamous unions are more likely to experience union dissolution than women in homogamous or hypergamous partnerships. Likewise, if women earn more than three quarters of the joint couple income the union is more likely to dissolve compared to partnerships where the woman earns less than the man. It is only in the interaction model (M3 in Table 1) that the "main effect" of relative education becomes statistically not significant while the relative earnings variable retains its significance for the highest category. It seems that relative income takes precedence over relative education when determining dissolution risks and this can be also seen when model-predicted rates of union dissolution are plotted graphically (not shown here).

Table 1 Logistic regression model of union dissolution

	M1		M2		M3	
	Coef.	SE	Coef.	SE	Coef.	SE
Her relative education (ref.=Homogamy)						
Hypogamy	0.213***	(0.064)	0.182**	(0.064)	0.096	(0.094)
Hypergamy	-0.024	(0.072)	0.013	(0.072)	0.047	(0.104)
Her relative earnings (ref.=0.25-0.5)						
0-0.1	-0.246	(0.138)	-0.080	(0.143)	-0.079	(0.149)
0.1-0.25	-0.146	(0.079)	-0.108	(0.080)	-0.191	(0.101)
0.5-0.75	0.252***	(0.065)	0.193**	(0.066)	0.156	(0.085)
0.75-1	0.511***	(0.083)	0.327***	(0.091)	0.374***	(0.114)
Her abs. education (ref.=medium)						
Low	0.199**	(0.073)	0.145	(0.074)	0.145	(0.074)
High	-0.498***	(0.064)	-0.440***	(0.066)	-0.439***	(0.066)
No children in household	1.407***	(0.064)	1.398***	(0.064)	1.394***	(0.064)
Her abs. earnings (log)	-0.097**	(0.035)	0.006	(0.042)	0.009	(0.042)
Woman has no income	-0.843**	(0.260)	-0.203	(0.298)	-0.184	(0.298)
Calendar year	0.037**	(0.012)	0.029*	(0.013)	0.028*	(0.012)
Couple's joint earnings quartile (ref =1)						
2			-0.152*	(0.065)	-0.149*	(0.065)
3			-0.385***	(0.078)	-0.381***	(0.078)
4			-0.404***	(0.093)	-0.401***	(0.093)
Interaction terms						
Hypogamy X relative earnings						
0-0.1					0.108	(0.156)
0.1-0.25					0.442*	(0.182)
0.5-0.75					0.160	(0.145)
0.75-1					-0.147	(0.194)
Hypergamy X relative earnings						
0-0.1					-0.076	(0.153)
0.1-0.25					-0.036	(0.190)
0.5-0.75					-0.049	(0.205)
0.75-1					0.002	(0.235)
Constant	-3.354***	(0.680)	-4.302***	(0.712)	-4.308***	(0.712)
lnsig2u	2.040***	(0.053)	2.021***	(0.054)	2.015***	(0.054)

Source: EU-SILC 2006–2013. Control variables not shown: country dummies, her age and age squared, proportion of women in tertiary education in country, and calendar year. Standard errors in parentheses.
* <.05; **.01; ***<.001

The results in Table 1 present averages across all countries. We extend the pooled-country regression analysis by including country-level contextual factors to gain insight about international heterogeneity in the association between relative earnings and union dissolution. Contextual indicators include welfare state arrangements and gender attitudes, which depending on the country

may either facilitate or make it more difficult to maintain partnerships where the woman is the main income earner.

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