

The Reversal of the Gender Gap in Education, Motherhood, and Women as Main Earners in Europe

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Abstract Men have historically attained more education than women, but this gender imbalance in education has reversed in many countries. In recent cohorts, the wife typically has as much as or more education than the husband. Using data from the EU-SILC (N=95,389 for 27 countries), this paper investigates to what extent the newly emerging pattern of educational assortative mating is associated with a higher proportion of women who out-earn their partners in Europe. We find that this proportion varies on the country level between 20% and almost 50% for childless women and is generally much lower for women with small children. However, if a woman is better educated than her partner, this clearly increases the odds that she earns more than half of the couple's joint earnings. This happens to such an extent that it reduces the effect of motherhood on the wife's relative earnings: college educated mothers of school-age children with less educated partners are nearly as likely to be main breadwinners as college educated childless women in a homogamous union.

Keywords: marriage; union formation; education; assortative mating; gender roles; family income

Introduction

Over the past decades, participation in advanced education has increased, first among men but next even more among women. Since the 1990s, there are more women than men enrolled in higher education worldwide. In many countries, women now outnumber men in college level education and graduate more successfully. This affects age-old patterns of assortative mating which are no longer compatible with the distribution by age, sex, and education. Recent studies have shown that the reversal of gender inequality in education has undermined the traditional pattern of hypergamy (women marrying up) and that hypogamy (women marrying down) has become more prevalent (Esteve et al., 2012; Grow and Van Bavel, 2015; De Hauw et al. 2017).

Changing patterns of educational assortative mating are expected to affect family dynamics (Van Bavel, 2012; Schwartz and Han, 2014). A major reason is that an increase of hypogamy is likely to affect who is contributing most to the family budget: if the wife is higher educated than the husband, she may have a higher earning potential in the paid labour market – this paper uses “husband” and “wife” to denote married couples as well as people in unmarried cohabitation. This is bound to affect decision-making related to his and her labour market participation and to childbearing.

Yet, the reversal of the gender gap in education need not necessarily lead to a reversal of the gender earnings gap within the family. There are several reasons why a gap to the disadvantage of women may persist. One of them is that the choice of study subjects in education and the selection into occupations in the labour market remain strongly gender-biased, with men typically selecting the more lucrative branches (Blau et al., 2013; Mandel

and Semyonov, 2014). Another reason is the persistence of a “motherhood penalty”: women tend to scale down their paid labour market activity after having children, and this negatively affects their earnings. Social norms may also inhibit women to become the main breadwinner. As a result, they continue to earn less than their male partners particularly in families with children (Budig et al., 2012). Even though dual-earning and female breadwinner families have been on the rise in recent decades (Raley et al., 2006; Vitali and Arpino 2016), families with the husband as the main earner still form the majority of households. Hence, it remains an empirical question to what extent the reversal of the gender gap in educational attainment is associated with a higher likelihood that she earns more than him within couples.

This paper investigates how educational pairings are associated with the likelihood that the wife earns more than her partner, and how this interacts with motherhood status. Drawing on the European Union’s Statistics on Income and Living Conditions (EU-SILC), we first describe how common it is in European countries for women to be the main earner and how this is associated with women’s relative education. To assure that our assessments do not just reflect the situation before or after the 2008 financial crisis, we combine the 2007 and 2011 rounds of the EU-SILC. Next, we analyse the differences between childless women and mothers across European countries. Using multinomial regression analysis, we investigate how educational pairings interact with motherhood status. The central question here is whether the motherhood penalty on relative earnings is moderated by relative education.

The next section draws two main hypotheses from the relevant literature about educational assortative mating, women’s labour market activity, and the motherhood penalty. After detailing the data and methods used, we first chart our descriptive results and then present the results from a multinomial model on how educational pairings affect relative earnings within married as well as cohabiting couples. We find that the emerging pattern of

educational hypogamy is clearly associated with a higher likelihood that the woman is the main breadwinner. This happens to such an extent that it counteracts a large part of the negative effect of motherhood on her contribution to the household income.

Background and hypotheses

Educational assortative mating

Differences between the relative contributions of spouses to the household budget are partly driven by educational assortative mating. The traditional male breadwinner model was linked with a male advantage in education and a pattern of educational hypergamy (women marrying up in terms of education). With the expansion of female participation in college level education, homogamy has become the modal marriage pattern in most Western countries over the course of the 20th century (Schwartz and Mare, 2005; Blossfeld, 2009; Schwartz, 2013).

With the reversal of the gender gap in education, educational hypogamy (women selecting a less educated partner) has recently become more common than the traditional hypergamy (Esteve et al. 2012; Grow and Van Bavel 2015; De Hauw et al. 2017). If the wife has more education than the husband, she may also be more likely to be the main breadwinner. However, this need not necessarily be the case. “Marrying down” runs against traditional gender roles, and US data on relative earnings suggest that unions where she earns more than him are still less common than could be expected given the reversal of gender inequality in education (Bertrand et al., 2015). In most countries the gender pay gap is still to the disadvantage of women (Christofides et al., 2013). This persistence is related to women’s choice of study subjects and occupations, the degree of attachment to the labour market and how this connects with childbearing and child-rearing. These factors are now discussed in more detail.

Gender and paid work

The relative contribution of partners to the joint income will depend directly on their activity in the paid labour market and wage levels, which is affected by his and her education. For both men and women with moderate education, the gains from labour market activity and the opportunity costs of staying at home are relatively low; conversely, for those with more education, the gains from paid labour and the opportunity costs of staying at home are higher (Becker, 1993).

Micro-economic theory states that such gains and opportunity costs have implications for the gender division of labour. If both partners have a low level of education, the need for income will encourage employment in both partners, but low income potential and low opportunity costs of staying at home will discourage employment, and at the same time the demand for low skilled workers may be limited. In such cases, after taking into account the demand side factors, it remains an empirical question whether the high need for income or the low opportunity costs will dominate for him and for her. Research in wealthy countries has typically found the opportunity cost effect predominating for women and the income effect for men, signalling the persistence of gender norms (England, 2010). Women more often stay at home when they have children, since the costs of outsourcing childcare undermine the incentives for paid labour, particularly among women with a low level of education. So, among homogamous couples with a low level of education, she is expected to earn less income, all else equal, particularly when they have children.

Following the same logic of income effects and opportunity costs, hypergamous couples may find it economically more beneficial if he specializes in paid labour market activity and she specializes in housework and childcare (Becker, 1993). The opposite might hold in case of hypogamy: when she is higher educated than he, the income effect might

dominate for her rather than for him and the opportunity cost of staying at home may be lower for him than for her. This may stimulate women to focus more on their careers.

Indeed, along with their increased college completion rates, women's labour market participation as well as their wage levels have grown more than that of men (Thévenon, 2013). The wage premium of college education has become greater for women than for men, which has motivated women to invest more in their education (Goldin et al., 2006). Women's standard-of-living gains from higher education appear to have increased more than that of men, too (DiPrete and Buchmann, 2006). This holds especially in times of high male unemployment rates. A recent study showed that male unemployment is a major reason for women to be the main earner of their families (Vitali and Arpino 2016).

This growing involvement of women in the paid labour market has been uneven across countries, however. Varying gender regimes sustain gender inequality to varying degrees, but even in gender equal Scandinavian countries men's employment is higher than women's (Pascall and Lewis, 2004). There are both institutional and cultural reasons for this – and the former often reflect the latter. Institutional reasons include policy arrangements that either facilitate or discourage women's employment through the tax system, childcare or labour market regulations (Neyer and Andersson, 2008). Cultural reasons include beliefs and norms that underpin the male breadwinner–female homemaker family model (Esping-Andersen, 2009) and may motivate couples to avoid that she earns more than him. Situations where the wife out-earns the husband could violate normative expectations about what it means to be “a real man” and “a real woman” (Bertrand et al., 2015), and such violation of gender identity entails costs that people tend to avoid (Akerlof and Kranton 2000). Furthermore, women tend to choose study subjects and occupations with lower earning potential than men (Blau et al., 2013; Mandel and Semyonov, 2014).

It therefore remains an empirical question whether or not the reversal of the gender gap in education and the increased prevalence of hypogamy imply that women are more often the main contributors to their family budget. Hence, the *first hypothesis* to be tested in this paper is that educational hypogamy is associated with a higher proportion of matches where the wife earns more than the husband compared to both homogamy and hypergamy.

Motherhood and relative income

Women with children tend to earn less income, both compared to their husbands and compared to women without children. The presence of very young children in particular leads to lower involvement in the paid labour market and, hence, lower relative earnings (Budig and England, 2001; Budig et al., 2012). The literature mentions several explanations for lower earnings of mothers, involving both causal and selection effects (Petersen et al., 2010; Cooke, 2014).

The basic causal explanation is that childbirth usually implies some time away from paid labour: most women temporarily retreat from the labour market upon childbirth, resuming work again as the youngest child gets older, be it often part-time only (Budig et al., 2012). Reconciling childrearing with paid work becomes more or less viable when the youngest child reaches an age when there are more options for formal child care and school. The reduction in earnings and income due to motherhood has been found to depend on features of the labour market, policy measures, as well as cultural attitudes towards family and gender roles (Neyer and Andersson, 2008; Gangl and Ziefle, 2009; Budig et al., 2012; Dotti Sani, 2015). Given the importance of human capital in the types of jobs carried out by college educated women, the motherhood penalty due to a slowdown of human capital accumulation is stronger for women with a high level of education than for women with less education (Anderson et al., 2002).

The negative correlation between motherhood and income may also be due to selection effects (Waldfogel, 1998; Petersen et al., 2010). Women who are more family-oriented may be opting out of the more lucrative but highly time-consuming careers and spend more time with their children. Lower educated women may be more home-centred than highly educated women (Lück and Hofäcker, 2008). We may therefore expect that the association between motherhood and breadwinner status would vary depending on educational attainment.

The motherhood penalty on absolute earnings is likely to affect negatively women's relative earnings compared to their male partners'. In this paper, we address the latter: we expect that the association between motherhood and relative income is not equal across assortative mating categories. Women in hypergamous couples, facing lower opportunity cost of childbearing, are more likely to focus on care work at home while the husband with relatively higher earnings focuses on work in the paid labour market. For hypogamous couples, the opposite is expected to happen more often, where the woman's withdrawal from the labour market may result in a more substantial cut in the family budget. Therefore, our *second hypothesis* is that the reduction in the likelihood to be the main earner associated with motherhood is smaller for women in hypogamous unions compared to other types of unions. Or, to look at this interaction the other way around, that the relative earnings bonus associated with hypogamy is larger for mothers than for childless women.

Data and methods

We use the European Union's Statistics on Income and Living Conditions (EU-SILC), an annual survey which in most countries uses a rotating panel design with a length of four waves. Each subsequent wave replaces part of the sample and the entire sample is renewed in four years (Atkinson and Marlier, 2010). This study uses cross-sectional data from the 2007

and 2011 waves, which ensures that samples do not overlap. The income reference period is the year previous to the interview, so our income data cover earnings in 2006 and 2010, respectively. We selected countries that are represented in both years and this makes for 27 countries in total (see Table A1 in Appendix).

We selected women who are living with a partner at the time of the survey, either married or unmarried, and who are at least 25 and up to 45 years old. To calculate the contribution of the female partner, only couples where at least one partner earned some positive income were included. A woman's contribution to the joint couple's earnings (which we will also denote by her "relative income" or her "share") is based on yearly gross income earned as an employee or through self-employment. We carried out a number of robustness checks to see whether our results depend on the income specification (net rather than gross income, with or without including transfers, see online supplementary material). The results of these alternative analyses are entirely in line with the ones presented below.

After excluding individuals with missing information and couples without any earnings, the study sample counts 95,389 couples (50,655 in 2007 and 44,734 in 2011 respectively). Table A1 in the Appendix displays sample sizes per country included, along with basic descriptive statistics of the main variables featuring in the analysis and with a description of the sample selection and exclusion process.

The woman's share is the ratio of the woman's earnings to the sum of both partner's earnings, ranging from 0.0 to 1.0. In most countries, the frequency distribution of this variable peaks firstly at 0.0 (the woman does not contribute any income) and secondly just before the 0.5 line of equal-earning couples. Figure 1 depicts the frequency distribution of the woman's share in each country, with the exclusion of the proportion of couples where she earns no income at all. The reason for excluding this group from the graph is that in some countries the strong concentration of couples in this group dominates the picture so much that

it would hide important patterns in other countries. We have printed the percentage of couples where she earns no income in the upper left corner of each panel. The percentages are particularly high (more than 25%) in Greece, Italy, and Spain as well as in Poland, the Czech Republic, Hungary, and Romania. Next, a notable feature of the distribution in most countries is “the cliff” at the 0.5 line: the distribution exhibits a sharp drop right at the point when the wife starts to earn more than the husband. Bertrand et al. (2015) make a similar observation for the US and interpret it as a sign that gender roles imply that women and/or men avoid the situation where she out-earns him as it would threaten their gender identity (cf. Akerlof and Kantton 2000).

These features of the frequency distribution of women’s share in the joint couple earnings have motivated us to distinguish between three groups of women: those who earn nothing or just a small fraction of the joint income (0–10% of the joint income, called “dependent women”), women who contribute a substantial portion but no more than half of the income (11–50%), and women who have passed the “cliff” in the frequency distribution by earning more than their partner (51–100%, called “breadwinner women”). The latter category is of central interest in this paper. We have experimented with alternative categorizations, including versions with women contributing 0%, with a middle category of women contributing 40–60%, a category of women earning 90–100%, and a binary version distinguishing those earning more than 50% from the rest. These alternatives yielded the same conclusions as the ones reported below.

We used multinomial logistic regression to model the probability that a woman is in the dependent (0–10%) or in the breadwinner category (51–100%) as opposed to being a contributing spouse (11–50%, i.e., the reference category). The primary purpose of the model is to test the effects of combinations of his and her education and motherhood, and their

three-way interactions on relative earnings. From the model we predicted probabilities of belonging to the breadwinner category to facilitate correct interpretation.

<FIGURE 1 Distribution of the woman's contribution to the couple earnings by country, about here>

EU-SILC measures educational attainment with the ISCED-97 scale, which we collapsed into three groups: low (ISCED levels 0–2, up to the second stage of basic education), medium (ISCED 3–4, secondary education or post-secondary but not tertiary) and high education (ISCED 5–6, university level bachelors, masters and PhD's). This collapsing implies a loss of information and amplifies the level of homogamy. But we preferred to use wider categories to ensure that the crossing of their boundaries corresponds to major differences in educational attainment in the European context.

Motherhood status is the next key explanatory variable. EU-SILC lacks information on the number of children ever born, it only includes children who are living in the same household. Hence, what we will capture in this paper is really the effect of having a child living at home, not the effect of parenthood per se. We distinguish between three categories: childless women, mothers whose youngest child is up to 3 years old, and mothers whose youngest child is at least 4 years old.

The regression analysis controls for woman's age, the age difference between the partners, marital status, and income reference year (2006 versus 2010). In addition, considering that women in poorer families are more likely to be breadwinners (Winslow-Bowe, 2006), we control for the absolute level of family income by including a country-specific quintile of the joint couple earnings in our regression model. Table A1 in Appendix

gives basic, country-specific information about the distribution of each of the variables of interest.

Empirical results

Descriptive findings

Educationally homogamous couples form the majority of the sample and they are the dominant group in every country (for details by country, see Table A2 in Appendix). The proportion of homogamous couples ranges from about 50% in Iceland to well over 70% in Central and East European countries such as Bulgaria, Czech Republic, Poland, Romania, and Slovakia. Most of the homogamous couples have either a medium or high level of education. Among couples of unequally educated spouses, hypogamous couples are more common than hypergamous ones in the vast majority of countries. Only in Austria, Czech Republic, Germany, and Romania is the proportion of hypergamous couples higher than the proportion of hypogamous unions. The dominance of hypogamy over hypergamy corresponds to the new gender gap in education and confirms the pattern reported in earlier studies (Esteve et al., 2012; Grow and Van Bavel, 2015). Our data also demonstrate that matches between the college educated and people with just primary education are rare, but if they happen, it is more common that the wife rather than the husband has the college degree. We also find a positive correlation across countries between the proportion of hypogamous couples (Table A2 in Appendix) and the proportion of women who earn more than their partner (Table A1 in Appendix): the Pearson correlation coefficient is 0.48, indicating that about a quarter of the variance of the proportion of female main breadwinners is covered by the proportion of couples where the woman has a higher level of education than the man.

To explore how relative earnings are associated with educational pairings, Figure 2 displays for each country the proportion of women who earn more than their partner by

combinations of his and her education. Educational pairings that were represented by less than 20 observations in the sample are excluded from the graph. As should be expected, women's education is positively associated with the share of them earning more than their husbands in all countries. Husband's education, on the other hand, is negatively related to the proportion of women earning more than their husbands: the higher his education, the lower her share in the income. This is most clearly visible in Germany, Hungary, and Luxembourg, for example. Across the board, and disregarding sampling error for the time being, it clearly matters whether she is in a homogamous or hypogamous relationship: in case of hypogamy, the proportion of female breadwinners is higher in all countries. This holds for college educated women in particular. There are differences between countries, but the basic pattern is very general and in line with our first hypothesis (which will be tested more formally below).

<FIGURE 2 Proportion of women earning more than their partner by country and her and his education, about here >

Figure 3 shows how motherhood status is associated with the proportion of female breadwinners. Women earning more than half of the joint income are most common among the childless. In Lithuania, Latvia, and Slovenia, more than 40% of childless women are main earners. They are least common among those with toddlers. Still, at least one in five mothers with toddlers is the main or sole breadwinner of her household in France, Iceland, Portugal, Slovenia, and Spain. Among women with children above age 3, the proportion of breadwinners generally falls in between the two mentioned categories. We now turn to regression analysis to find out how educational pairings interact with motherhood to affect the breadwinner status.

<FIGURE 3 Proportion of women earning more than their partner by country and motherhood status, about here>

Regression analysis

We fitted a multinomial logistic regression model of the wife's relative earnings with interaction between both partners' education and the wife's motherhood status. Regression coefficients are reported in Table 1. Here, we focus on the probability that the wife is earning more than the husband. In order to facilitate the interpretation of the multinomial model, Figure 4 plots predicted probabilities of being the breadwinner by both her and his educational attainment and by the woman's motherhood status. Confidence bounds of point estimates are calculated so that non-overlap of confidence bars indicates statistically significant difference at $p < 0.05$ level (see Goldstein and Healy 1995). Three vertical panels are defined by the motherhood condition (youngest child 0–3 years old, youngest child aged 4 or more, childless). The wife's education is on the horizontal axis of each panel and line type refers to the husband's education.

The wife's own educational attainment strongly affects the predicted probability to be the main earner across all three motherhood categories: it is lowest for women with a low level of education, in between for women with a medium level of education, and highest for the highly educated women. The differences between women with a low and medium level of education are sometimes small and not always statistically significant; those between women with a medium and high level of education— by far the two most numerous groups — are bigger and statistically significant, with predictions being at least 10 percentage points higher for the highly educated. The size of these differences depends also on the education of the

husband. As can be seen in Figure 4, the predicted probability that she is the main earner is lower if the male partner is highly educated in about all conditions of Figure 4 (although not always statistically significant for smaller groups, as indicated by the larger confidence intervals). Like for her education, the differences between low and medium educated men are mostly small and statistically not significant.

Combining his and her education, our results imply that, at a given level of the wife's education, hypogamous women tend to be the main breadwinner more often than homogamous or hypergamous women. This holds for a model without the interaction with motherhood (not shown) and it holds across all motherhood conditions, but the difference is biggest, and statistically significant, for mothers who are highly educated and whose youngest child is at least 4 years old (see the middle panel of Figure 4). Such highly educated mothers are much more likely to be the main earner when their husbands have only medium or low educational attainment, compared to when their husbands also have high attainment levels. The difference between homogamous and hypogamous highly educated women amounts to more than 10 percentage points in this group. For medium educated mothers with children at least 4 years old, the difference is rather between hypergamous unions on the one hand and homogamous and hypogamous ones on the other hand: in the former group the proportion of female breadwinners is predicted to be up to 10 percentage points lower than in the latter group. While the same pattern holds for women without children and for women with children under age 4, the differences are statistically significant only for highly educated women with young children. If they are highly educated and in a homogamous union, they are less likely to be breadwinners compared to their counterparts who are in a hypogamous union.

A key research question was how the motherhood penalty on relative earnings interacts with combinations of his and her education. Figure 4 shows that motherhood is

associated with lower relative earnings across all educational pairings (compare the first two panels with the right hand panel). Childless women are predicted to be the main earner most often (see also parameter 0.655 in Table 1) and women with children under age 4 least often (-0.229 in Table 1). Next, our estimates show that hypogamy is associated with a lower motherhood penalty on relative earnings, particularly for highly educated women. The middle panel of Figure 4 illustrates that, for highly educated women with children aged 4 years and more whose husbands have less education, the predicted probability to be the main breadwinner is around 0.35. This is relatively close to the level predicted for childless highly educated women who are in a homogamous union (Figure 4, right hand panel). For medium educated women with children over age 3, both homogamy and hypogamy is significantly associated with a higher chance to be the main earner, compared to peers in more traditional hypergamous unions. Among women with a low level of education, regardless of motherhood status, we do not see significant differences across different educational pairings in the probability to be the main earner. All in all, our second hypothesis thus finds partial support: hypogamy reduces the gap in relative earnings due to motherhood primarily for women with advanced education. For medium educated women, the effect is smaller than for the highly educated. Note, however, that our cross-sectional data do not allow us to tell to what extent the reduction in the relative earnings gap is due to the selection of particular types of mothers into both hypogamy and motherhood, and to what extent this reflects a causal effect of hypogamy on relative earnings among mothers.

<FIGURE 4 Model predicted probability that she earns more than her partner by educational pairing and motherhood status, about here>

As for the control variables in our model (Table 1), the model finds no statistically significant difference between year 2006 and 2010. The variable of joint earnings quintile has a negative gradient both for the odds of being in the dependent group and for the odds of being the breadwinner. Low family income often means that one partner earns very little or nothing, which explains why women in poorer families are more likely to be either dependent on the partner or take the role of the breadwinner. We have also fitted a version of our model without these control variables. The results for the effects of the educational pairings and motherhood status do hardly change. If anything, the simplified model reinforces our conclusions for these focus variables.

Conclusion and discussion

Figure 1 showed that there is a “cliff” in the distribution of women’s relative contribution to their household income at the 50% line which is fairly consistent across European countries: while a growing proportion of women earns up to almost 50% of the joint income, the proportion suddenly drops once we pass the 50% line. This paper has investigated whether the emerging pattern of educational hypogamy is associated with a growing tendency to cross that ‘cliff’, i.e., with a higher proportion of wives out-earning their husbands. More specifically, we have tested whether hypogamy moderates the negative association between motherhood and relative earnings in European couples. We found that this indeed the case. College educated women in homogamous unions are less likely to be main earners than hypogamous peers. The difference is largest for mothers with children above age 3. Hypogamy is alleviating the negative effect of motherhood on relative earnings. College

educated women whose youngest child is above age 3 are almost as likely to be the main breadwinner as college graduates without children in homogamous unions. For women with a low level of education, there are no significant differences depending on the educational attainment of the partner. They are least likely to be the main breadwinner irrespective of the educational attainment of the male partner. For women with a medium level of education, partners' education does matter, but the differences in its effect are smaller.

Our study clearly has some important limitations. First is that we have only looked at his and her educational attainment levels but not at the role played by their respective *fields* of education. The field of study clearly has strong implications for the earning potential in the labour market. Field of study has also been shown to be related to both the transition to motherhood, the earning potential, as well as to attitudes about gender roles (Van Bavel, 2010). Choice of study disciplines along gender-stereotypical lines might explain why men remain the main breadwinner in the majority of cases, even in hypogamous couples. Unfortunately, the data used in this paper do not allow inclusion of field of study.

Second, our analysis focused on women's relative earnings compared to their male partners' only. As a result, we cannot draw conclusions about how educational pairings affect women's absolute earnings and about whether educational pairings increase or alleviate the motherhood penalty on absolute earnings. Given the positive association between his and her absolute earnings and between educational attainment and wage level, we would expect that the motherhood penalty would also be lower among hypogamous women in terms of absolute earnings. However, recent research suggests that there may also be a parenthood penalty on earnings for men, particularly on the low end of the income distribution (Cooke 2014), so this merits further investigation.

Third, our modelling results present an overall, average pattern across countries, leaving the remaining country heterogeneity unaddressed. The descriptive statistics presented

in this paper demonstrate notable country differences in the proportion of female breadwinners. Depending on how highly educated the population of a given country tends to be, his and her relative education may be differentially associated with women's relative income. Also, the tax and benefits arrangements that apply in a particular country may have an important impact on a husbands' and wives' employment decisions, perhaps particularly on who is the main and the secondary earner (Thévenon 2013). Addressing the role of such macro-level factors is beyond the scope of this paper.

Fourth, our findings on the association between educational pairings and women's share in the family income should not be interpreted as pure causal effects. A reason to be cautious about this is that the selection into union as well as parenthood and divorce risks may correlate with woman's income and educational level, with variation from country to country. It could be argued that well-educated and high income earning women are more or rather less likely to marry and have children, depending on the country context, and more or less likely to dissolve existing partnership due to higher individual economic security. Some women may be selected into motherhood for unobserved reasons that may also affect their mate choice as well as their relative earnings, creating a set of correlations that reflects this selectivity rather than a causal effect of relative education on relative earnings. It is also possible that there is selection into certain types of educational pairings as a function of individuals' earning potential (Dribe and Nystedt, 2013).

Nevertheless, our main finding is robust: the pattern of female educational hypogamy that is emerging in most Western countries is associated with a higher proportion of women who earn more than half of the family income. We believe this represents a major trend with potentially important implications for the demography of family formation and reproduction (see Van Bavel, 2012 for a review). We speculate that the rise of female breadwinners will interfere with the traditional household calculus of decision making about childbearing. The

main theoretical reason for this is that it affects the opportunity costs for households of letting the wife retreat from paid labour to engage in homemaking and child care. On the one hand, the opportunity cost of having a child would be higher for the family where the wife is the main earner, if having a child implies some retreat from the labour market. So, at first sight, female breadwinners may be expected to have lower fertility compared to women who contribute less than half of the household income. Yet, on the other hand, if the wife's earnings are higher than the husband's, she will have more power in deciding how to spend the money. She will have more leverage to spend it on ways to outsource household tasks and childcare rather than on, say, expensive consumer durables (Lundberg, Pollak and Wales, 1997; Basu, 2006). This will dampen the opportunity costs of childbearing and may give women more leverage to realize their personal family size ideals.

There is a second way in which the rise of female breadwinners may dampen the opportunity costs of childbearing. Higher relative earnings may also affect the division of labour within the household (Evertsson and Neramo, 2007). In the past, women generally had less power in the couple than men because they earned less income. Women's power was further reduced because their options after potential union dissolution were limited due to their specialization in unpaid household labour (England, 2010). Since men had more power than women, men have been more able to resist doing household labour when they do not want to do it, whereas women had to give in even if they disliked the same tasks in the household (Poortman and van der Lippe, 2009). The "gender revolution" has been very uneven so far, in that women have caught up with men in education and the labour market much more than men have caught up with women in household work (Goldscheider, Bernhardt and Lappegård 2015). This may change as more women become their households' main breadwinners. If men catch up with women in taking care of the household work and

children, this may further dampen the opportunity costs of having children. As a “gender equity dividend” (Anderson and Kohler 2015), this may in turn stimulate fertility.

References

- Akerlof, G. A. and Kranton, R. E. (2000). Economics and Identity. *Quarterly Journal of Economics*, **115**, 715–753.
- Anderson, D. J., Binder, M and Krause, K. (2002). The motherhood wage penalty: Which mothers pay it and why? *American Economic Review*, **92**, 354–358.
- Anderson, T. and Kohler, H.-P. (2015), Low Fertility, Socioeconomic Development, and Gender Equity. *Population and Development Review*, **41**, 381–407.
- Atkinson, A. B. and Marlier, E. (Eds.). (2010). *Income and Living Conditions in Europe*. Luxembourg: European Union.
- Basu, K. (2006). Gender and say: A model of household behaviour with endogenously determined balance of power. *Economic Journal*, **116**, 558–580.
- Becker, G. S. (1993). *A Treatise on the Family. Enlarged Edition*. Cambridge, Mass.; London: Harvard University Press.
- Bertrand, M., Pan, J. and Kamenica, E. (2015). Gender identity and relative income within households. *Quarterly Journal of Economics*, **130**, 571–614.
- Blau, F. D., Brummund, P. and Yung-Hsu Liu A. (2013) Trends in Occupational Segregation by Gender 1970-2009: Adjusting for the Impact of Changes in the Occupational Coding System. *Demography*, **50**, 471–492.
- Blossfeld, H.-P. (2009). Educational assortative marriage in comparative perspective. *Annual Review of Sociology*, **35**, 513–530.
- Budig, M. J. and England, P. (2001). The wage penalty for motherhood. *American Sociological Review*, **66**, 204–225.

- Budig, M. J., Misra, J. and Boeckmann, I. (2012). The motherhood penalty in cross-national perspective: The importance of work-family policies and cultural attitudes. *Social Politics*, **19**, 163–193.
- Christofides, L. N., Polycarpou, A. and Vrachimis, K. (2013). Gender wage gaps, ‘sticky floors’ and ‘glass ceilings’ in Europe. *Labour Economics*, **21**, 86–102.
- Cooke, L. P. (2014). Gendered parenthood penalties and premiums across the earnings distribution in Australia, the United Kingdom, and the United States. *European Sociological Review*, **30**, 360–372.
- De Hauw, Yolien, Grow, A. and Van Bavel, J. (2017, forthcoming). The reversed gender gap in education and assortative mating in Europe, *European Journal of Population*.
- DiPrete, T. A. and Buchmann, C. (2006). Gender-specific trends in the value of education and the emerging gender gap in college completion. *Demography*, **43**, 1–24.
- Dotti Sani, G. M. (2015). Within-Couple Inequality in Earnings and the Relative Motherhood Penalty. A Cross-National Study of European Countries. *European Sociological Review*, **31**, 667–682.
- Dribe, M. and Nystedt, P. (2013). Educational homogamy and gender-specific earnings: Sweden 1990–2009. *Demography*, **50**, 1197–1216.
- England, P. (2010). The gender revolution: Uneven and stalled. *Gender & Society*, **24**, 149–166.
- Esping-Andersen, G. (2009). *The Incomplete Revolution. Adapting to Women's New Roles*. Cambridge, UK: Polity Press.
- Esteve, A., García-Román, J. and Permanyer, I. (2012). The gender-gap reversal in education and its effect on union formation: The end of hypergamy? *Population and Development Review*, **38**, 535–546.

- Evertsson, M. and Neramo, M. (2007). Changing resources and the division of housework: A longitudinal study of Swedish couples. *European Sociological Review*, **23**, 455–470.
- Gangl, M. and Ziefle, A. (2009). Motherhood, labor force behavior, and women's careers: An empirical assessment of the wage penalty for motherhood in Britain, Germany, and the United States. *Demography*, **46**, 341–369.
- Goldin, C., Katz, L. F. and Kuziemko, I. (2006). The homecoming of American college women: The reversal of the college gender gap. *Journal of Economic Perspectives*, **20**, 133–156.
- Goldscheider, F., Bernhardt, E. and Lappegård, T. (2015). The Gender Revolution : A Framework for Understanding Changing Family and Demographic Behavior. *Population and Development Review*, **41**, 207–239.
- Goldstein, H. and Healy, M. J. (1995). The graphical presentation of a collection of means. *Journal of the Royal Statistical Society. Series A (Statistics in Society)*, **158**, 175–177.
- Grow, A. and Van Bavel, J. (2015). Assortative Mating and the Reversal of Gender Inequality in Education in Europe: An Agent-Based Model. *PLoS ONE*, **10**, 1–24.
- Lundberg, S. J., Pollak, R. A. and Wales, T. J. (1997). Do Husbands and Wives Pool Their Resources? Evidence from the United Kingdom Child Benefit. *The Journal of Human Resources*, **32**, 463–480.
- Lück, D. and Hofäcker, D. (2008). The values of work and care among women in modern societies. In W. van Oorschot, M. Opielka and B. Pfau-Effinger (Eds.), *Culture and welfare state. Values of social Culture and welfare state. Values of social policy from a comparative perspective* (pp. 289–313). Cheltenham: Edward Elgar.
- Mandel, H. and Semyonov, M. (2014) Gender Pay Gap and Employment Sector: Sources of Earnings Disparities in the United States, 1970-2010. *Demography*, **51**, 1597–1618.

- Neyer, G. and Andersson, G. (2008). Consequences of family policies on childbearing behavior: Effects or artifacts? *Population and Development Review*, **34**, 699–724.
- Pascall, G. and Lewis, J. (2004). Emerging gender regimes and policies for gender equality in a wider Europe. *Journal of Social Policy*, **33**, 373–394.
- Petersen, T., Penner, A. M. and Høgsnes, G. (2010). The within job motherhood wage penalty in Norway, 1979-1996. *Journal of Marriage and Family*, **72**, 1274–1288.
- Poortman, A.-R. and Van Der Lippe, T. (2009). Attitudes toward housework and child care and the gendered division of labor. *Journal of Marriage and Family*, **71**, 526–541.
- Raley, S. B., Mattingly, M. J. and Bianchi, S. M. (2006). How dual are dual income couples? Documenting change from 1970 to 2001. *Journal of Marriage and Family*, **68**, 11–28.
- Schwartz, C. R. (2013). Trends and variation in assortative mating: causes and consequences. *Annual Review of Sociology*, **39**, 451–470.
- Schwartz, C. R. and Han, H. (2014). The reversal of the gender gap in education and trends in marital dissolution. *American Sociological Review*, **79**, 605–629.
- Schwartz, C. R. and Mare, R. D. (2005). Trends in educational assortative marriage from 1940 to 2003. *Demography*, **42**, 621–646.
- Thévenon, O. (2013). *Drivers of Female Labour Force Participation in the OECD*. No 145. OECD Publishing.
- Van Bavel, J. (2010). Choice of study discipline and the postponement of motherhood in Europe: the impact of expected earnings, gender composition and family attitudes. *Demography*, **47**, 439–458.
- Van Bavel, J. (2012). The reversal of gender inequality in education, union formation and fertility in Europe. *Vienna Yearbook of Population Research*, **10**, 127–154.
- Vitali, A., and Arpino, B. (2016). Who brings home the bacon? The influence of context on partners' contributions to the household income. *Demographic Research*, **35**, 1213–1244.

Waldfogel, J. (1998). Understanding the 'family gap' in pay for women with children. *The Journal of Economic Perspectives*, **12**, 137–156.

Winslow-Bowe, S. (2006). The persistence of wives' income advantage. *Journal of Marriage and Family*, **68**, 824–842.

Tables

TABLE 1 Multinomial logistic regression of women's share in couple earnings: regression coefficients and standard errors

	0–10%		51–100%	
	Coef.	SE	Coef.	SE
Motherhood status				
Childless	–0.593***	(0.094)	0.655***	(0.146)
Child aged 0–3	0.725***	(0.138)	–0.229***	(0.068)
Child aged 4+	Ref.		Ref.	
Her–His education				
Low–Low	0.468**	(0.145)	–0.158	(0.104)
Low–Medium	0.596***	(0.075)	–0.319**	(0.110)
Low–High	1.333***	(0.245)	0.037	(0.301)
Medium–Low	0.228**	(0.085)	0.335***	(0.094)
Medium–Medium	Ref.		Ref.	
Medium–High	0.680***	(0.130)	–0.356***	(0.067)
High–Low	0.331	(0.191)	1.178***	(0.123)
High–Medium	–0.028	(0.133)	1.079***	(0.082)
High–High	0.299*	(0.147)	0.417***	(0.068)
Interaction terms				
Childless X Her–His education				
Low–Low	0.200	(0.192)	–0.176	(0.177)
Low–Medium	0.326	(0.229)	–0.421	(0.277)
Low–High	–0.288**	(0.099)	–0.350	(0.347)
Medium–Low	0.156	(0.088)	–0.337*	(0.134)
Medium–High	–0.149	(0.092)	0.120	(0.088)
High–Low	0.445*	(0.219)	–0.376	(0.217)
High–Medium	0.245	(0.148)	–0.458***	(0.109)
High–High	0.099	(0.067)	0.067	(0.112)
Child aged 0–3 X Her–His education				
Low–Low	–0.322	(0.181)	0.210	(0.159)
Low–Medium	–0.121	(0.203)	0.275	(0.329)
Low–High	–0.798**	(0.306)	–0.321	(0.739)
Medium–Low	–0.359*	(0.174)	0.007	(0.156)
Medium–High	–0.236**	(0.087)	0.451***	(0.091)
High–Low	–0.624*	(0.311)	0.116	(0.226)
High–Medium	–0.218	(0.176)	0.086	(0.143)
High–High	–0.213	(0.139)	0.421***	(0.116)

SOURCE: EU-SILC 2007 and 2011, own calculations.

Note: we have carried out log-likelihood chi-squared tests to test the statistical significance of each of the variables included in the model, as well as of each of the interaction effect. All these tests show that the variables as well as the included interactions are statistically significant at the level of $p < 0.001$.

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TABLE 1 Multinomial logistic regression of women’s share in couple earnings: regression coefficients and standard errors (continued)

	0–10%		51–100%	
	Coef.	SE	Coef.	SE
Her age	0.017**	(0.006)	0.040***	(0.004)
Year 2010	0.052	(0.064)	0.077	(0.056)
Joint earnings quintile				
1	1.942***	(0.223)	1.406***	(0.075)
2	0.856***	(0.108)	0.291***	(0.054)
3	Ref.		Ref.	
4	–0.591***	(0.107)	–0.141***	(0.036)
5	–0.769***	(0.164)	–0.348***	(0.076)
Age difference of partners	0.021***	(0.003)	0.009**	(0.003)
Marital status				
Married	Ref.		Ref.	
Never married	–0.446***	(0.083)	0.238***	(0.067)
Divorced, separated	–0.457***	(0.078)	0.185*	(0.075)
Countries				
AT	Ref.		Ref.	
BE	–0.629***	(0.028)	0.046	(0.024)
BG	–0.445***	(0.027)	0.438***	(0.025)
CY	–0.581***	(0.017)	–0.089**	(0.033)
CZ	0.269***	(0.015)	0.071***	(0.013)
DE	0.254***	(0.020)	0.163***	(0.017)
DK	–1.496***	(0.046)	0.005	(0.027)
EE	0.268***	(0.040)	0.271***	(0.020)
ES	0.085*	(0.034)	0.326***	(0.020)
FI	–0.600***	(0.039)	0.026	(0.022)
FR	–0.438***	(0.032)	0.256***	(0.020)
GR	0.677***	(0.041)	0.482***	(0.024)
HU	0.228***	(0.014)	0.601***	(0.015)
IS	–0.919***	(0.041)	0.032	(0.028)
IT	0.285***	(0.027)	0.228***	(0.015)
LT	0.061***	(0.017)	0.837***	(0.031)
LU	–0.127***	(0.030)	0.215***	(0.023)
LV	–0.068***	(0.019)	0.726***	(0.021)
NL	–0.823***	(0.032)	–0.355***	(0.022)
NO	–1.151***	(0.040)	–0.349***	(0.031)
PL	0.499***	(0.022)	0.767***	(0.023)
PT	–0.494***	(0.055)	0.600***	(0.033)
RO	0.466***	(0.027)	0.491***	(0.020)
SE	–0.997***	(0.045)	–0.044	(0.030)
SI	–0.921***	(0.024)	0.736***	(0.027)
SK	–0.160***	(0.020)	0.170***	(0.023)
UK	–0.218***	(0.021)	0.071***	(0.014)
Constant	–1.948***	(0.260)	–3.279***	(0.153)
Pseudo R2	0.136			
N	95,389			

* p<0.05, ** p<0.01, *** p<0.001

NOTE: sample weights and country-clustered robust standard errors used. The left block of coefficients refer to the log-odds of being dependent on the husband as opposed to earning 11–50% of the couple income; the right hand block refers to the log-odds of earning 51–100% of the couple income, as opposed to belonging to the 11–50% group. The first horizontal block in the table gives the estimated effects of motherhood status when both she and he are medium educated (i.e., the reference category for educational pairing) and the effects of educational pairings for couples who have children above age 3 (i.e., the reference category). The blocks of coefficients below that are estimates for the interactions between educational pairing and being childless or having a child below age 4, respectively.

APPENDIX: Sample Selection and Sample Sizes

From the EU-SILC samples of 2007 and 2011 combined (N=1,149,891), we selected women who are at least 25 and less than 45 years old and have a partner in the household (N=104,407). After excluding couples with negative income (this can be due to losses from self-employment), the sample size is N=103,832. We then further limited the sample to couples where at least one partner has earned income (N=101,454). Next, couples with missing information about either partner's education were removed (remaining N=99,115). Then 314 same-sex couples were excluded. Since Ireland, Switzerland, and Malta are represented only in one of the two survey waves, we excluded these three countries (remaining N=95,498). Finally, we removed cases that had missing values in the woman's marital status and the sample ended up with 95,389 observations.

TABLE A1 Sample size and distribution of main variables by country

Country	Woman's relative earnings			Woman's education			Man's education			
	N	0–10% %	11–50% %	51–100% %	Low %	Mid %	High %	Low %	Mid %	High %
Austria	2,933	30.9	53.4	15.7	17.0	61.8	21.2	10.1	66.0	23.9
Belgium	2,591	17.6	58.8	23.6	8.7	37.6	53.7	14.6	42.1	43.2
Bulgaria	2,269	20.0	56.1	23.9	20.2	51.7	28.1	20.4	61.4	18.2
Cyprus	1,983	20.9	60.8	18.3	12.5	42.9	44.6	18.6	46.2	35.2
Czech Rep.	3,963	32.3	53.2	14.5	4.4	76.9	18.7	3.0	78.6	18.4
Germany	5,004	32.1	48.4	19.5	6.2	55.6	38.2	4.2	49.7	46.1
Denmark	2,659	10.2	64.1	25.7	11.0	46.7	42.3	14.7	51.6	33.6
Estonia	2,281	27.0	51.6	21.4	8.0	44.9	47.1	10.5	60.2	29.3
Spain	5,689	29.8	48.2	21.9	33.7	25.7	40.6	41.8	24.7	33.5
Finland	4,463	17.5	57.7	24.8	6.1	39.7	54.2	10.9	50.2	39.0
France	4,804	20.8	54.4	24.8	13.2	43.6	43.2	15.6	52.0	32.4
Greece	2,578	41.8	40.6	17.6	25.0	46.9	28.1	29.8	46.3	23.9
Hungary	4,595	29.5	47.1	23.4	14.2	60.2	25.5	12.6	68.6	18.8
Iceland	1,640	15.2	61.9	22.9	19.5	35.3	45.2	21.8	46.9	31.3
Italy	8,343	37.8	45.9	16.3	37.0	46.5	16.5	45.2	42.0	12.8
Lithuania	1,711	25.1	44.5	30.4	5.9	49.9	44.2	7.8	62.7	29.6
Luxembourg	2,936	25.7	54.6	19.6	29.9	35.1	35.1	30.0	40.4	29.6
Latvia	1,822	22.0	48.5	29.5	10.4	53.8	35.8	15.0	63.2	21.9
Netherlands	5,143	20.4	62.5	17.1	15.9	46.0	38.1	18.5	43.4	38.2
Norway	2,542	13.8	67.6	18.6	14.4	36.9	48.7	15.0	46.9	38.1
Poland	6,494	31.7	44.2	24.1	5.4	62.9	31.7	5.5	72.4	22.1
Portugal	1,960	21.9	53.0	25.1	58.5	21.4	20.1	69.2	19.0	11.8
Romania	3,281	35.8	46.9	17.3	22.5	61.7	15.8	14.7	69.6	15.6
Sweden	3,321	13.7	63.2	23.1	5.4	46.9	47.7	8.3	56.2	35.5
Slovenia	4,804	12.5	53.5	33.9	12.4	56.1	31.4	14.6	64.9	20.5
Slovakia	2,454	25.3	56.5	18.2	2.1	73.5	24.3	2.3	76.0	21.7
UK	3,126	23.9	55.0	21.0	6.1	53.3	40.7	9.4	55.0	35.5

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TABLE A1 Sample size and distribution of main variables by country (continued)

Country	Motherhood status			Woman's mean age	Age difference of partners (man – woman)	Income reference year 2010
	Child- less	Youngest child aged 0–3	Youngest child aged 4+			
	%	%	%	Years	Years	%
Austria	20.3	24.3	55.4	36.2	3.4	49.8
Belgium	26.9	27.1	46.1	35.2	2.9	49.9
Bulgaria	10.3	16.3	73.4	35.3	3.7	50.8
Cyprus	17.0	26.0	57.0	35.1	3.9	49.8
Czech Rep.	15.0	24.1	60.9	35.2	3.1	50.3
Germany	29.8	22.6	47.6	35.9	3.2	47.9
Denmark	22.6	29.3	48.0	35.5	2.6	48.2
Estonia	14.7	25.5	59.8	34.8	2.6	51.2
Spain	26.0	26.6	47.5	36.2	2.8	47.4
Finland	31.3	27.6	41.1	34.8	2.6	49.3
France	20.5	34.4	45.1	34.8	2.8	48.6
Greece	13.9	25.6	60.5	36.4	4.9	48.0
Hungary	14.9	20.4	64.7	35.4	3.3	46.7
Iceland	14.5	35.8	49.7	35.0	2.5	46.6
Italy	19.3	27.9	52.8	36.5	3.5	48.5
Lithuania	10.4	22.9	66.7	35.4	2.7	46.0
Luxembourg	23.1	28.1	48.9	35.8	3.3	49.9
Latvia	12.4	22.3	65.3	35.0	2.7	50.3
Netherlands	25.0	31.4	43.5	35.8	2.7	48.1
Norway	18.5	29.1	52.4	35.9	3.0	53.1
Poland	13.0	24.3	62.7	35.0	2.7	50.3
Portugal	14.1	22.3	63.6	35.9	2.9	48.1
Romania	15.3	13.9	70.8	35.3	3.5	50.1
Sweden	18.6	36.2	45.2	35.2	2.9	48.9
Slovenia	10.2	24.6	65.2	36.2	3.3	48.8
Slovakia	10.8	16.5	72.7	36.1	2.7	50.0
UK	27.8	28.2	44.0	35.4	2.9	51.0

SOURCE: EU-SILC 2007 and 2011, own calculations, sample weights used for calculation of distributions, 2007 and 2011 data pooled

TABLE A2 Distribution of educational pairings in the sample by country

Country	Homogamy by Her–His education				Hypergamy by Her–His education			Hypogamy by Her–His education				
	Low–Low	Mid–Mid	High–High	Sum	Mid–High	Low–Mid	Low–High	Sum	Mid–Low	High–Low	High–Mid	Sum
	%	%	%		%	%	%		%	%	%	
Austria	5.7	46.9	11.6	64.2	11.2	10.3	1.0	22.6	3.7	0.8	8.7	13.2
Belgium	3.6	22.0	34.2	59.8	7.7	3.8	1.3	12.8	7.9	3.1	16.4	27.4
Bulgaria	15.3	43.2	14.2	72.6	3.9	4.8	0.2	8.9	4.6	0.5	13.4	18.5
Cyprus	6.4	27.1	27.7	61.2	6.7	5.2	0.8	12.8	9.0	3.1	13.8	26.0
Czech R.	0.9	66.9	10.4	78.3	7.9	3.4	0.0	11.4	2.1	0.0	8.2	10.3
Germany	1.5	33.6	24.9	59.9	20.0	3.7	1.3	24.9	2.0	0.8	12.3	15.1
Denmark	4.4	30.7	23.9	58.9	8.6	5.3	1.2	15.1	7.4	2.9	15.6	25.9
Estonia	2.8	33.1	22.5	58.4	6.2	4.6	0.6	11.4	5.6	2.1	22.6	30.2
Spain	23.8	9.5	24.0	57.2	5.9	6.4	3.6	15.9	10.2	7.8	8.8	26.9
Finland	1.7	25.1	29.5	56.3	8.7	3.6	0.7	13.1	5.8	3.3	21.4	30.6
France	5.7	28.6	23.5	57.8	7.5	6.1	1.5	15.0	7.6	2.3	17.3	27.2
Greece	17.0	29.7	17.1	63.7	6.4	7.5	0.5	14.3	10.9	1.9	9.1	21.9
Hungary	6.6	48.9	13.1	68.5	5.6	7.6	0.0	13.2	5.7	0.3	12.3	18.3
Iceland	8.5	19.7	22.6	50.8	7.2	9.3	1.5	18.1	8.4	4.9	17.8	31.1
Italy	26.3	25.1	7.5	58.9	4.4	9.8	1.0	15.1	16.9	2.0	7.1	26.0
Lithuania	2.0	39.6	23.0	64.7	6.3	3.6	0.3	10.2	4.0	1.8	19.4	25.2
Luxembourg	18.8	22.2	24.2	65.2	4.2	9.9	1.2	15.3	8.7	2.5	8.3	19.5
Latvia	5.1	39.5	15.4	60.1	5.7	4.6	0.7	11.0	8.6	1.3	19.1	28.9
Netherlands	6.4	23.9	23.7	53.9	12.2	7.3	2.2	21.8	9.9	2.2	12.2	24.3
Norway	3.7	21.7	28.5	53.9	7.6	8.6	2.0	18.2	7.3	3.9	16.6	27.9
Poland	1.6	55.0	17.9	74.5	4.3	3.8	0.0	8.0	3.6	0.3	13.6	17.4
Portugal	52.4	7.4	8.8	68.6	2.2	5.3	0.8	8.2	11.9	4.9	6.3	23.2
Romania	10.7	53.7	11.5	75.9	4.1	11.7	0.1	15.9	3.9	0.2	4.2	8.2
Sweden	1.5	33.5	26.5	61.5	8.1	3.0	1.0	12.0	5.2	1.5	19.8	26.5
Slovenia	5.0	41.3	13.9	60.3	6.4	7.3	0.1	13.8	8.4	1.2	16.3	25.9
Slovakia	0.7	63.5	13.4	77.6	8.3	1.5	0.0	9.8	1.7	0.0	10.9	12.6
UK	3.2	38.4	25.0	66.6	10.0	2.5	0.4	12.9	4.8	1.5	14.1	20.4

SOURCE: EU-SILC 2007 and 2011, own calculations, sample weights used for calculation of distributions, 2007 and 2011 data pooled