Male fertility in consensual unions and marriages: selected post-socialist countries

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Introduction

There is a huge literature examining fertility trends and their determinants in low-fertility societies, but studies on men are rare, even there is a general acceptance that family life suffers a de-standardization process, and this concerns especially men (Widmer & Ritschard, 2009).

Existing research on men indicate that disadvantaged men have little chance to become fathers and to have multiple children in stable unions (see Lappegård & Rønsen, 2013 for Norway) or as single fathers (see Guzzo & Hayford, 2010 for USA). Studies on men's fertility in connection with their current union status usually deal with delay in entering fatherhood and less with their completed fertility (Dariotis et al., 2011; Vignoli et al., 2012). Those dealing with multiple parenthood (Schober & Scott, 2012) or with men's completed fertility (Pailhe & Solaz, 2012, Kravdal & Rindfuss 2008)) often ignore their union status, focusing mainly on the effect of economic resources and employment, or limiting to the effect of education. It is documented that until the 1980s there was little non-marital cohabitation in Eastern European countries (Hoem et al, 2009), but after the fall of state socialism consensual unions became more popular, and this development had consequences for the patterns of childbearing, both for women and for men.

Beyond what other authors have provided before on men's fertility, this study extends previous investigations to Eastern Europe, which has not been given enough attention so far. We pay attention to men's completed fertility by union type, with a special eye for the effect of educational attainment.

Research questions and hypotheses

Some research questions are under study:

How much differs the fertility level of married men from those in consensual unions? What are the most recent trends? Whether cohabitational fertility becomes more similar or more divergent as compared to marital fertility? What effect has the educational attainment on men's fertility?

Our first research hypothesis is that, in gender egalitarian societies, with more similar gender equality across welfare-state institutions, the TFRs of men (and of women) depend less on their

educational attainment but more on the type of union they are involved. Secondly, in more traditional societies, the effect of education on male fertility is more important, despite the fact that is often the opposite of what it is for women.

Data and methods

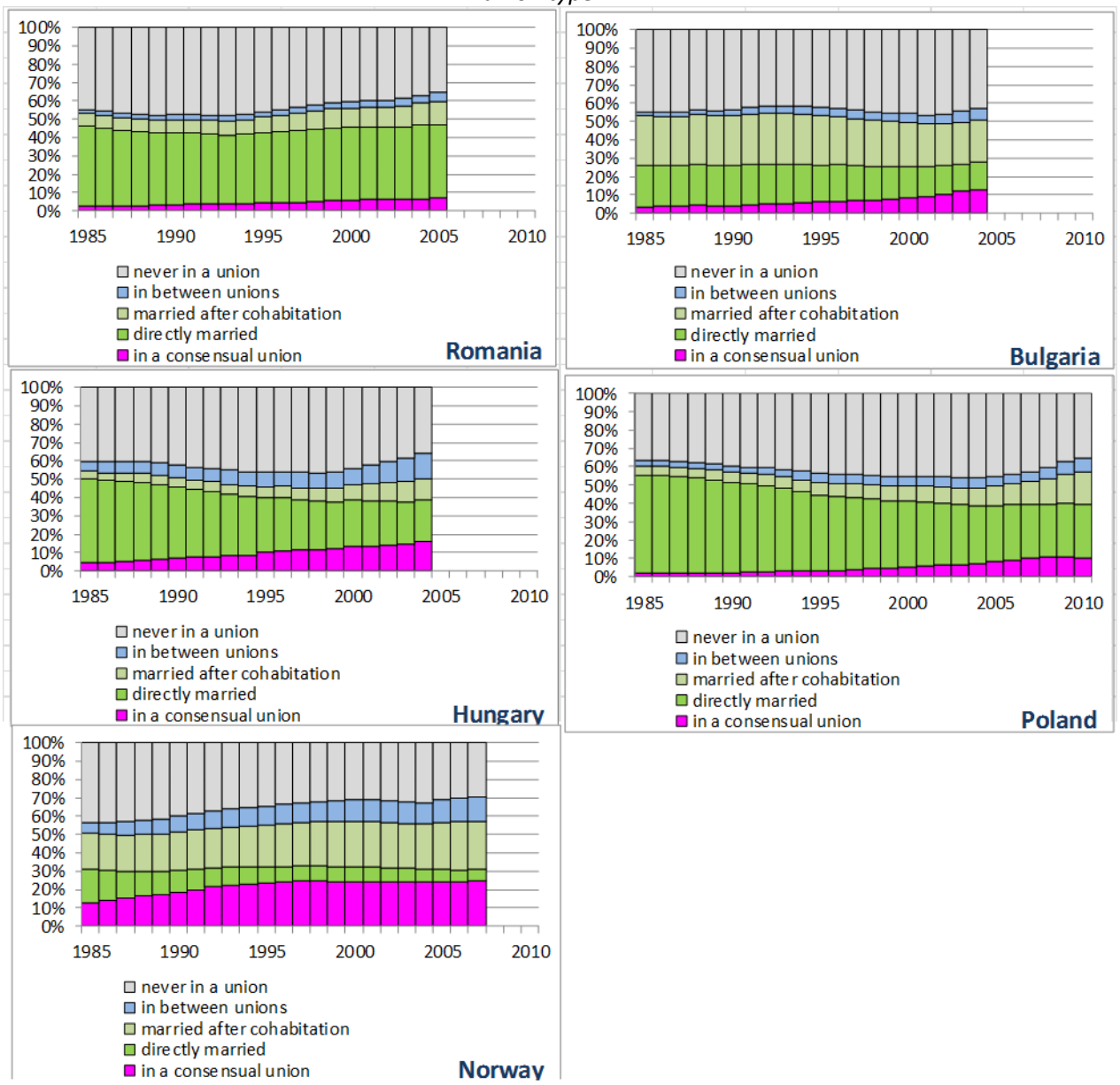
Generations and Gender Surveys data for 5 European countries, 4 Eastern European (Romania, Bulgaria, Hungary, and Poland) plus Norway (known as among most gender equalitarian social regimes) are used to compute duration-based total fertility rates in the spirit of parity-progression ratios developed by Hoem and Muresan (2011). More than 30 thousands men and 35 thousands women aged 15 to 50 during the period starting with 1st January 1985 and ending somewhere in 2004, 2005, 2008, or 2011 depending on the date of interview in the country, are in the sample.

First, *descriptive statistics* are used to highlight development over time of aggregate male fertility levels by union type, and by educational attainment. Then, we supplement with results from *piece-wise constant hazard regression models* of births intensities, which estimate the effects of some fertility determinants. The process-time is duration of union.

All our *explanatory variables* are time-varying. Beside the current union type, and the current educational attainment, they include covariates like parity, age group at union formation, and union number.

Fertility trends by union type

Figures 1. Distribution of exposure-time of men in reproductive age, by country, calendar year, and union type

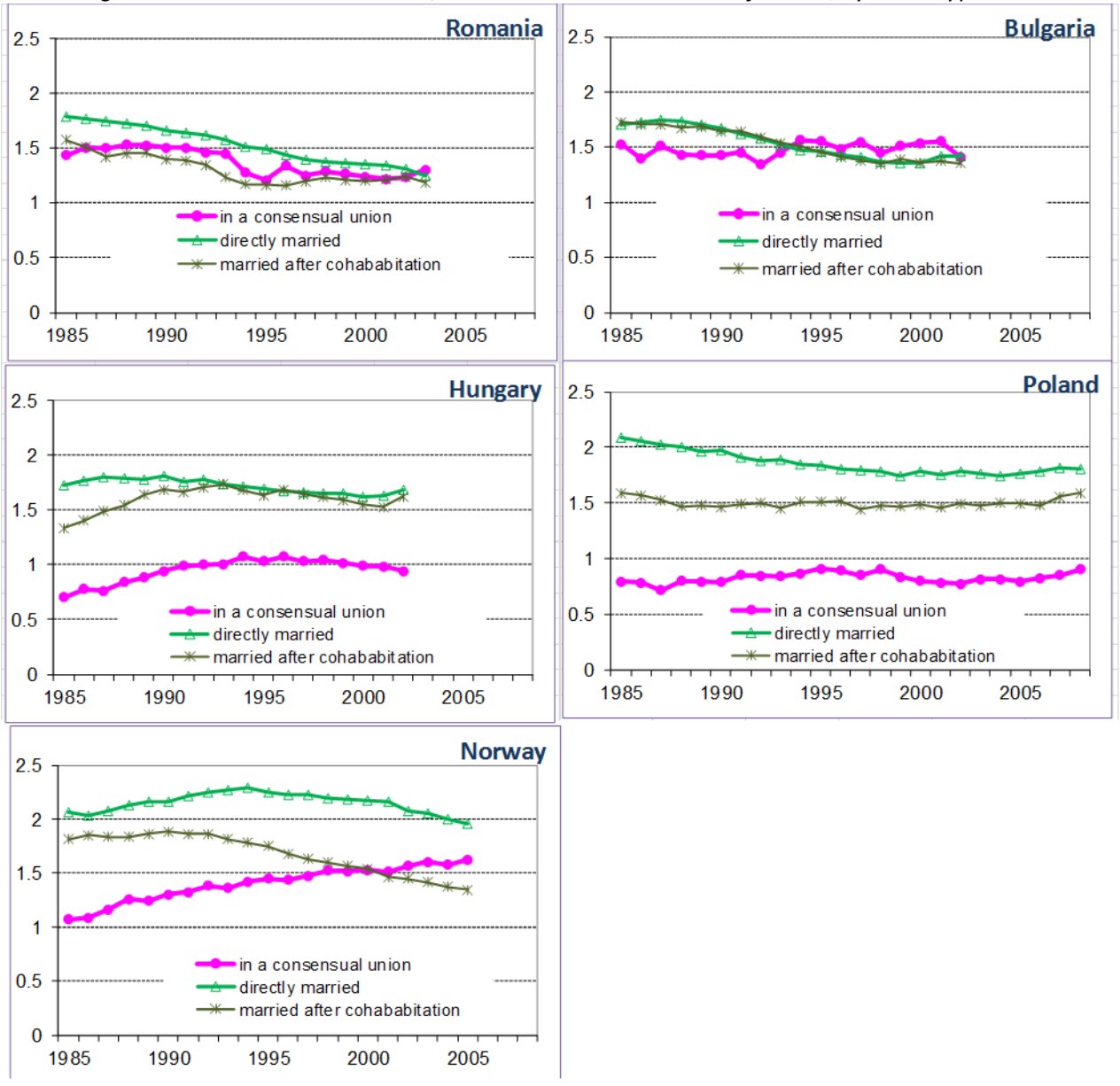


Before assessing the fertility trends by union type, let's see the development of distribution of exposure-time of men in reproductive age, by union type and country. One can see in Figures 1 that the time is almost equally shared between being in a union *(pink and two nuance of green)* and not having a partner *(grey and blue).* In Eastern European countries, the share of time spent in consensual union (*pink*) is relatively small, but it is in an evident increasing-trend. In Norway consensual unions are much more widespread. The share of time spent in marriages is considerable in Eastern Europe, but differences between countries are made by direct marriages and marriages with pre-marital cohabitation. In Romania, Hungary and Poland prevail direct marriages (*dark green*);

while in Bulgaria prevail marriages transformed from previous cohabitations (*light green*). The time spent in direct marriages prevail in Hungary and Poland, but in these two countries there is a clear tendency of change toward less time spent in direct marriages and more time spent in marriages with pre-marital cohabitation.

Figures 2 show estimates of duration-based TFRs by union type, country, and calendar year. Single men, never in a union or between two unions were excluded. We can see that in Romania and Bulgaria there are no real differences between marital and non-marital male aggregate fertility. By contrast, the differences are important in Hungary, Poland and Norway; TFRs of men being up to one child lower in consensual unions than in marital ones; and the changes toward convergence take place only in Norway.

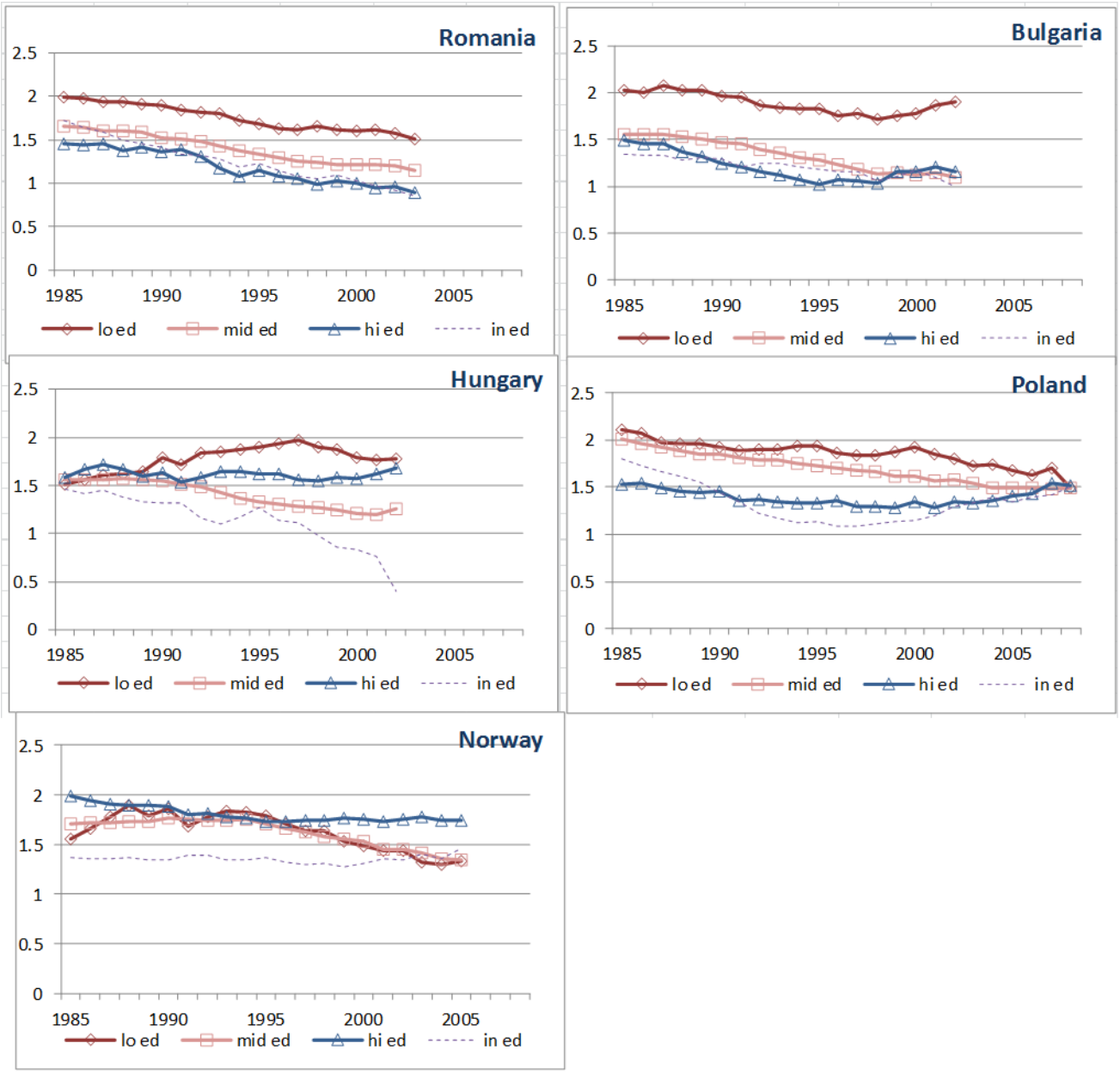
Figures 2. Trends over 1985-2004/2011 in duration-based TFRs for men, by union type.



Trends by educational attainment

The duration-based TFRs by educational attainment, represented graphically in Figures 3, show that there is a persistent negative educational gradient in Romania and Bulgaria, with no tendency in reducing differences between men with low and high levels of education. In Hungary the differences appear only after the 1990s, when the fertility of men with low education increases and of those with medium education decreases. In Poland the negative effect of education tends to disappear in the very recent years. In Norway the positive educational gradient found in the 80s tend to re-appear starting with year 2000.

Figures 3. Trends over 1985-2004/2010 in duration-based TFRs for men, by level of education



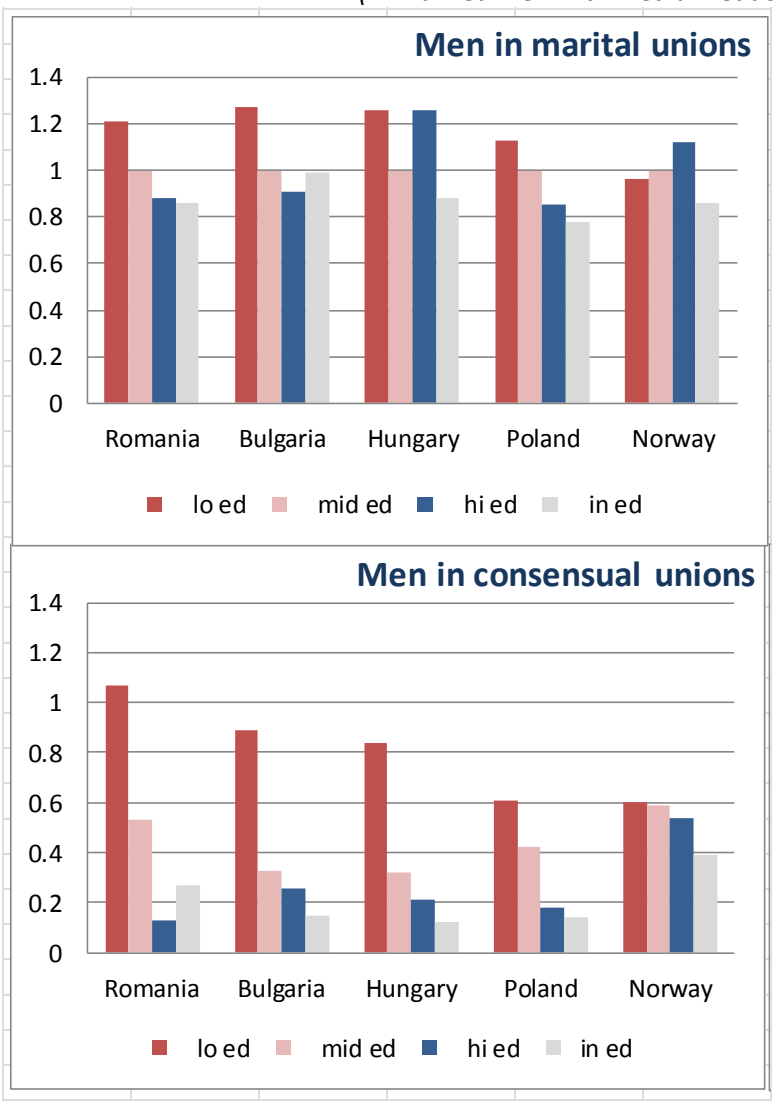
The duration-based TFR estimates shown above, give us an accurate picture about the development over time of men's fertility. However, they are not standardized in respect with other personal characteristics, excepting duration of union and union type, respectively, educational attainment. They highlight fertility levels and differences by union type, respectively, by educational attainment, but they do not take into consideration compositional changes in male population by other important factors influencing fertility. Or, the family constellation of European populations changed continuously not only upon the union types, but also upon the number of children fathers have, upon their age at union formation (which is higher in the case of men with high education), or upon their number of previous union (which hinder the increasing share of re-partnered men). Moreover, these

estimates show nothing about the effect of educational attainment within cohabitation and within marriage.

Educational differentials within marriage and consensual union

Let us see (Figures 4) the educational differentials within marriage and within consensual union, shown by relative risks as they were estimated with a hazard model of childbearing intensities which controls for all the above mentioned compositional factors. This model interacts not only duration and period (necessary for the calculation of TFRs), but also education and union type. The relative risks represented in the figure are compared to value 1, set to fertility of married men with medium level of education.

Figures 4. Relative risks of childbearing intensity whilst married /cohabiting, by educational level (1=married men with medium education).



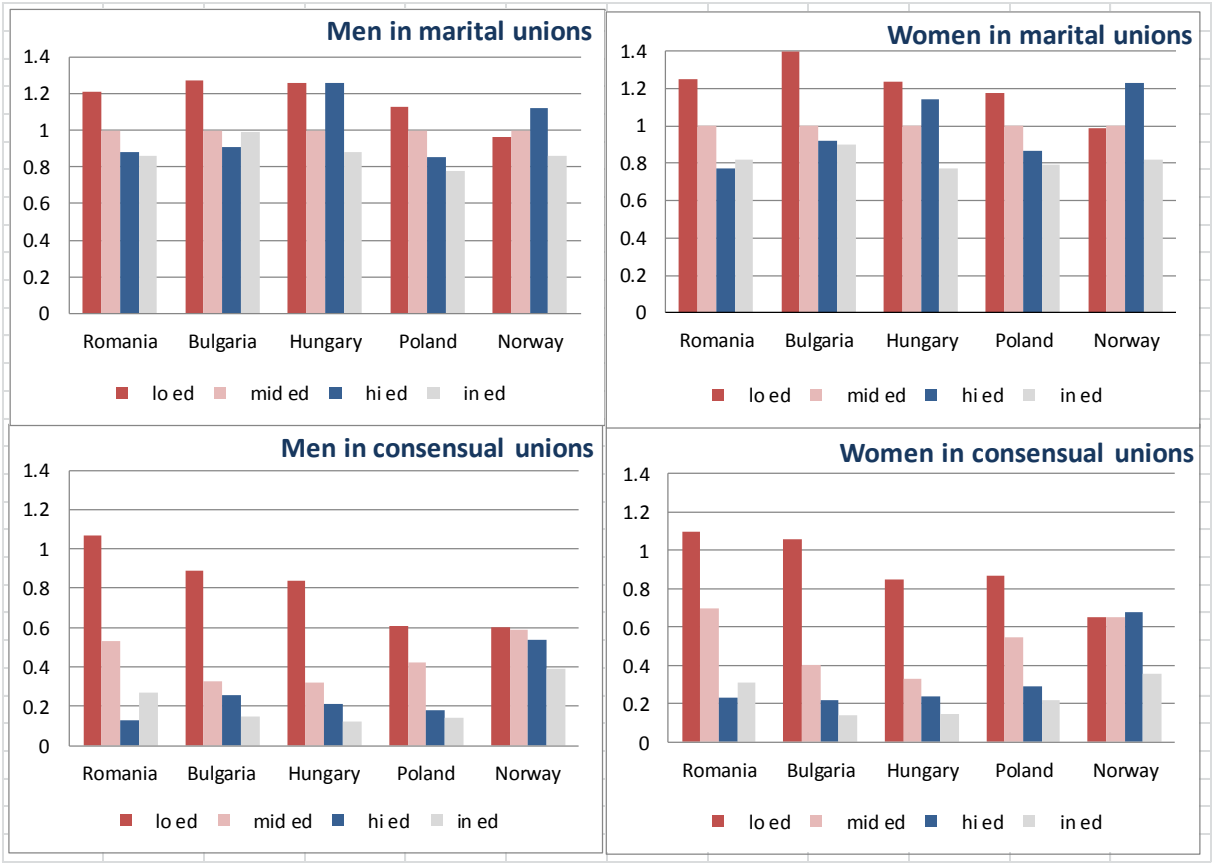
As regard marital unions (first panel of Figures 4), where direct marriages and those with pre-marital cohabitation were taken together, we can notice the same educational differentials shown previously

by descriptive statistics, in all the countries: negative gradient in Romania, Bulgaria and Poland, U-shape effect in Hungary, and positive gradient in Norway.

In consensual unions (second panel of Figures 4), the relative risks show a clear negative educational gradient in all countries including Hungary and Norway. The effect is much more pronounced in Eastern Europe (especially in Romania) and less pronounced, not statistically significant, in Norway.

Comparing marital fertility with fertility in consensual union one can see the higher fertility in marriage than in simply cohabitation (except Romanian men with low education in consensual union).

Figures 5. Relative risks of childbearing intensity whilst married /cohabiting, by educational level (1=married men with medium education).



Note: Model with two interactions: union duration x period and education x union type. Other controlled covariates: parity, age group at union formation, union number

If we consider also female fertility levels (Figures 5), the general findings found for men hold for women as well, especially those referring to educational differentials within consensual unions. The differences are made by the marital fertility, where the negative educational gradients in Romania

and Bulgaria and, respectively, the positive gradient in Norway, are more evident for women than for men.

Conclusions

As answers to our research questions we found that marital fertility is higher than fertility in consensual unions in 3 out of 5 countries, but no in Romania and Bulgaria. In the latter two countries we found similar levels, and we also have seen (when controlling for changes in family constellation) that it is due solely to men with no more than compulsory education. It seems that there is not a pattern of disadvantage for this category of men, like other authors have shown for example in Norway. The sole country where cohabitational and marital fertility seems to converge is Norway, and no one from Eastern Europe.

As regard the effect of educational attainment, it has a mixed effect on men's aggregate fertility, depending on country. It negatively affects especially cohabiting men, more than those in marriages: within-union-type-differentials being much wider in consensual unions. However, education can have a positive effect (which is the case for Norwegian men in marital unions), no effect (the case of Norwegian men in consensual unions), or even an U-shaped effect (like in the case of married Hungarian men).

Our main research hypotheses are confirmed. In gender egalitarian societies, like Norway, men's childbearing intensities depend less on their educational attainment than on the type of union they live into. By contrast, in more traditional societies, like our four post-communist countries, the effect of education on male fertility is important, especially in consensual union settings. It could be as important as the effect of the union type itself (like in Hungary and Poland; but not in Bulgaria and Romania). However, we did not find major differences nor opposite effects when comparing men and women situations, except stronger effects of education on women's fertility.