The Role of Consensual Unions in Romanian Total Fertility

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The Role of Consensual Unions in Romanian Total Fertility

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Abstract: The purpose of the present paper is to complete previous analyses of duration-based Total Fertility Rates specific for union types (TUFRs) as contained in the Romanian Generations and Gender Survey. The present analysis covers the period 1965-2005, going back twenty more years than before. It reproduces negative educational gradients in fertility, now for women in consensual unions and in direct marriages, separately. Partnered Romanian women have a high duration-based Total Fertility Rate even when they are enrolled in education. For women with a low educational attainment we find that the total fertility in marital and in cohabitational unions are largely of the same size order. The Total Fertility Rate for a consensual union that is converted into a marriage appears as a contribution from the cohabitational period added to a separate contribution from the marital period.

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[1] The authors have contributed equally to the present paper.

Introduction

Recently, Hoem and Mureşan (2011b) developed the duration-based Total Fertility Rate, specific for union type (TUFR), defined by adding together duration-specific (rather than age-specific) fertility rates for each union type.[2] They applied it to Romanian Generations and Gender survey data for four groups of women, namely (i) those who at any given time had never lived in a marital or consensual union, (ii) cohabitants, (iii) married women who had lived in a cohabitational union before they married, and (iv) women who had married directly (i.e., without premarital cohabitation). The purpose of the present paper is to extend their approach and to pay more attention to the role that consensual unions have played in the analysis of total fertility, partly as precursors to subsequent marital unions and partly in their own right. We concentrate on the total fertility in and after consensual unions because (when we combine it with a simple smoothing procedure) this turns out to provide a simple way of overcoming the strong influence of random variation in a smallish data set. The method constitutes a quick-and-dirty complement to more detailed event-history analyses and avoids some of the complexities involved in the latter (Hobcraft et al. 1982).

The present paper contains several extensions of previous work, in particular we have now

(1) subdivided the group of married women according to the length of any cohabitation that preceded the marriage and have noted trends in the total fertility of each subgroup (even though for most such groups there appears to be a lot of random variation; at each stage only still cohabiting and directly married individuals, as well as those who married during the first year of their consensual union, seem to constitute large enough groups to avoid an overly strong influence by random variation in our data),

(2) studied corresponding time series of total fertility in consensual unions,

(3) studied corresponding trends for cohabiting and directly married women, separately by educational level, and

(4) studied corresponding trends for women of rural and urban origins.

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[2] As these authors made clear, they were inspired by well-known notions of parity-progression rates. While we were working on the present paper, John Hobcraft pointed out to us that duration-specific rates and their sums were pervasive in the work around the World Fertility Survey already; see, e.g., Hobcraft et al. (1982) and Hobcraft and Casterline (1983).

In each case we have followed the trends over a longer period than before (1965-2005 instead of 1985-2005 as in the paper by Hoem and Mureşan, 2011b, i.e., over an additional twenty earlier years). It is particularly attractive to study group-specific trends in Romanian fertility because its population was subject to unusually dramatic changes in family policies in our years of investigation.

In previous work (Mureşan and Hoem 2010, Hoem and Mureşan 2011) the analysis has contained control variables (like parity and union order) whose effects have been given as relative risks. We have experimented with similar features in the present setting as well and (unsurprisingly) have found that group-specific TFRs decline systematically with an increasing age at union formation. No interesting new patterns in the relative risks have been revealed beyond those reported earlier. In general, the findings have turned out to be quite robust against model or data re-specification.

Data and method

Our data come from the Romanian Generations and Gender Survey of 2005. Its sample consists of 11,986 respondents (5,977 men and 6,009 women) aged from 18 to 79 years at the time of interview, but our interest is focused on the 5,847 women belonging to the Romanian or Hungarian ethnic groups. We have excluded 162 individuals of other ethnicities (including rroma) because of their very special union formation and childbearing behavior; they are too few for a reliable separate analysis. We have also eliminated 25 records because they had improper marital or educational histories. Our final sample has 5,824 women.

Following Hoem and Mureşan (2011b) we have computed fertility rates $f_d^g(t)$ for partnered women at union duration d for selected population subgroups g (such as directly married women at a given level of education at marital duration d) and corresponding group-specific "raw" Total Fertility Rates (TFRs) $TFR_{raw}^g(t) = \sum_d f_d^g(t)$ for each calendar year t, to get, say, initial values for the TFRs for directly married women with low, middle, and high educational attainment (and women under education) on which Figure 1 is based.[3] The raw values initially computed in this manner are strongly influenced by random variation. To get the entries in Figure 1 we have replaced the raw values by smoothed values

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[3] We treat educational attainment and student status as time-varying covariates.

$$TFR^g(t) = \sum_{s=-6}^{6} TFR_{raw}^g(t+s)/11,$$ except in the tails of the curve, where we have used fewer terms

in the unweighted moving average that this procedure represents.[4]

We have used the same smoothing procedure for other population sub-groups g. For example, Figure 2 contains smoothed trends in duration-based TFRs for married women, by duration of any premarital cohabitation. The curve marked with little triangles is for women who start with a consensual union which they convert to a marriage in their first year of cohabitation; the curve marked with open rings is for women who married during their second or third year of cohabitation, and so on. Even though we have smoothed these curves as described above, the curves for women who married after more than one year of pre-marital cohabitation seem still to be visibly influenced by random variation.

Note that Figure 2 pertains to married women and that the curves represent their TFR as produced <u>in marriage</u> only. Any childbearing before the marriage is left out of account in Figure 2. To include the TFRs produced at the various durations of any premarital consensual union we have proceeded as follows.[5]

We have computed fertility rates $f_d^g(t)$ from occurrences and exposures for the group g of all cohabiting respondents who have never married by duration d, irrespective of whether they possibly married later. We have subsequently smoothed these rates over calendar years t as described above. The result is displayed in Figure 3. The values are cumulative, in the sense that an annual value for the 2nd and 3rd year (say) in a consensual union is produced by adding together the underlying duration-specific fertility rates for the second and third year of cohabitation. A combined TFR for a union that is consensual for two years and is then converted into a marriage during the third year of the union is obtained by adding together the TFRs for the first two (consensual) years of the union, half the TFR for the third year of the consensual union (on the standard assumption that the consensual union is converted into a marriage half-way into the third year of the union), and the total TFR in marriage for a union that is converted in its third

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[4] This and the following diagrams are included at this stage of our report as part of our presentation of the methods used. We will discuss their substantive content later.

[5] We have ignored the TFR contributions for women outside of any (consensual or marital) union because these contributions are very small and contribute little to the women's lifetime TFRs, computed across all union types.

year (cf. Figure 2).[6] The pre-marital contributions for the various union durations at conversion appear in Figure 4.

Figure 1. Trends over 1965-2005 in duration-based TFRs for directly married Romanian women, by level of education.
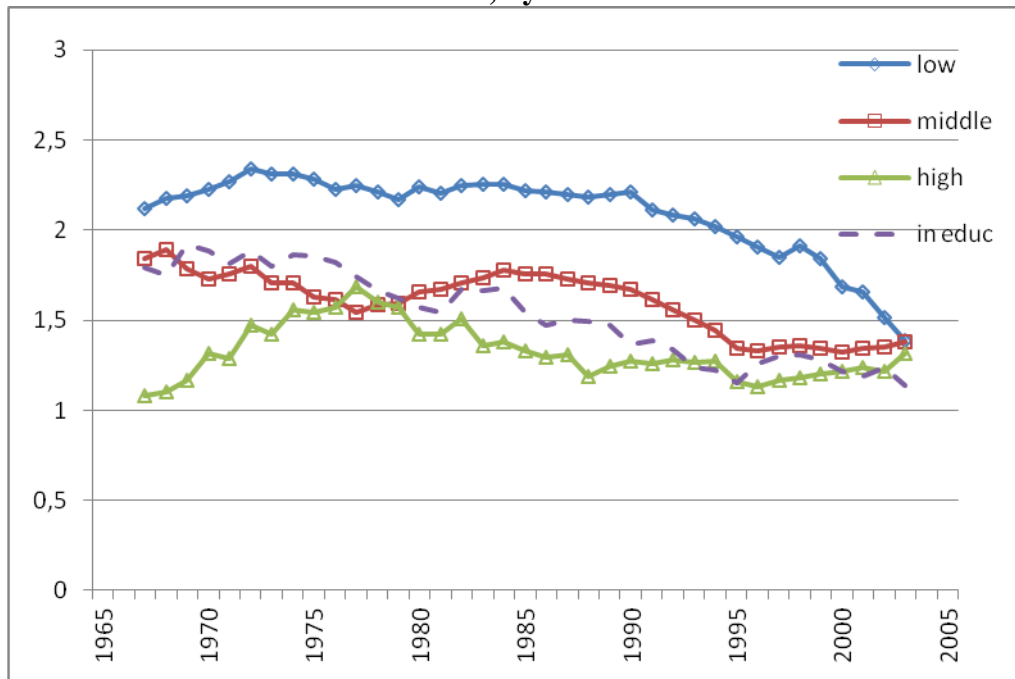
[6] One might think that it would be enough to organize marriages by duration of pre-marital cohabitation throughout and then add pre-marital TFRs to the corresponding marital TFRs restricted to unions that were converted at the various cohabitational durations, but that procedure would be anticipatory (since for pre-marital periods one would condition on the subsequent conversion into a marriage), so we want to avoid such a procedure.

Figure 2. Trends 1965-2005 in duration-based TFRs for married Romanian women, by duration of any premarital cohabitation
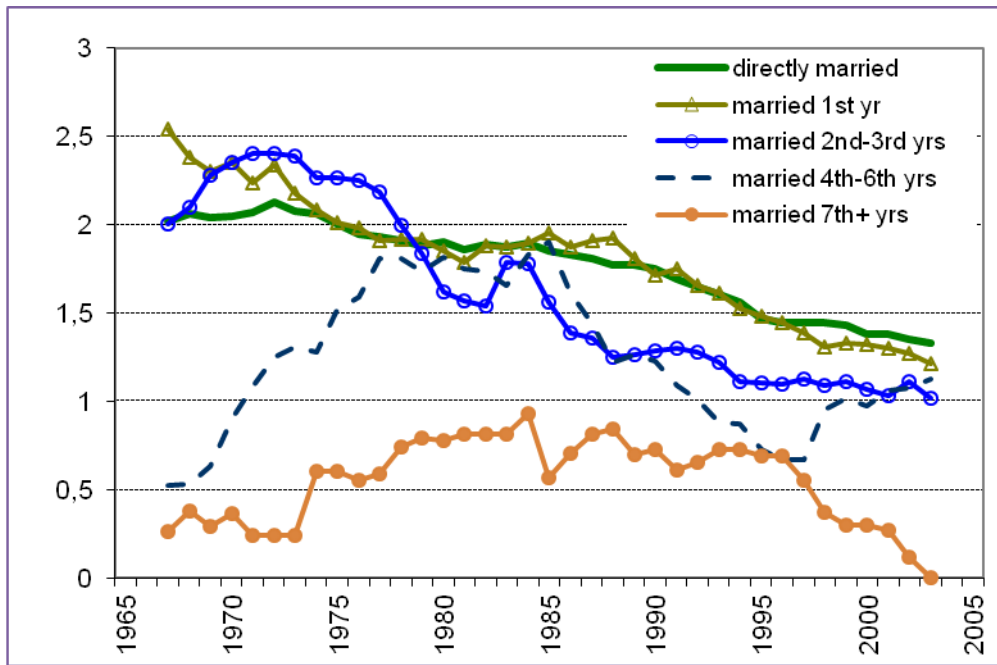

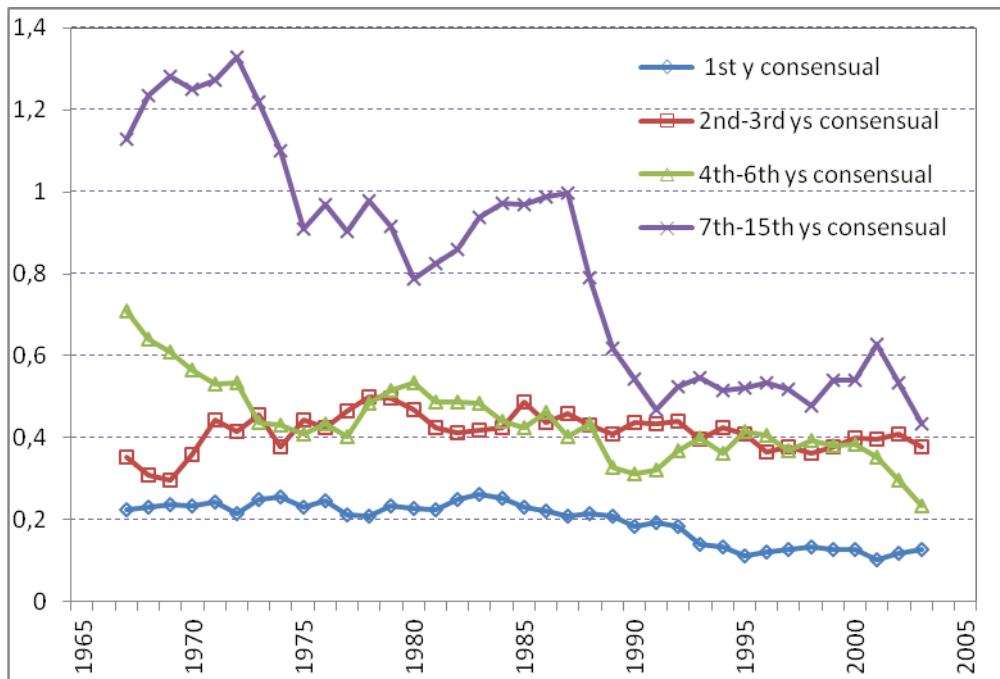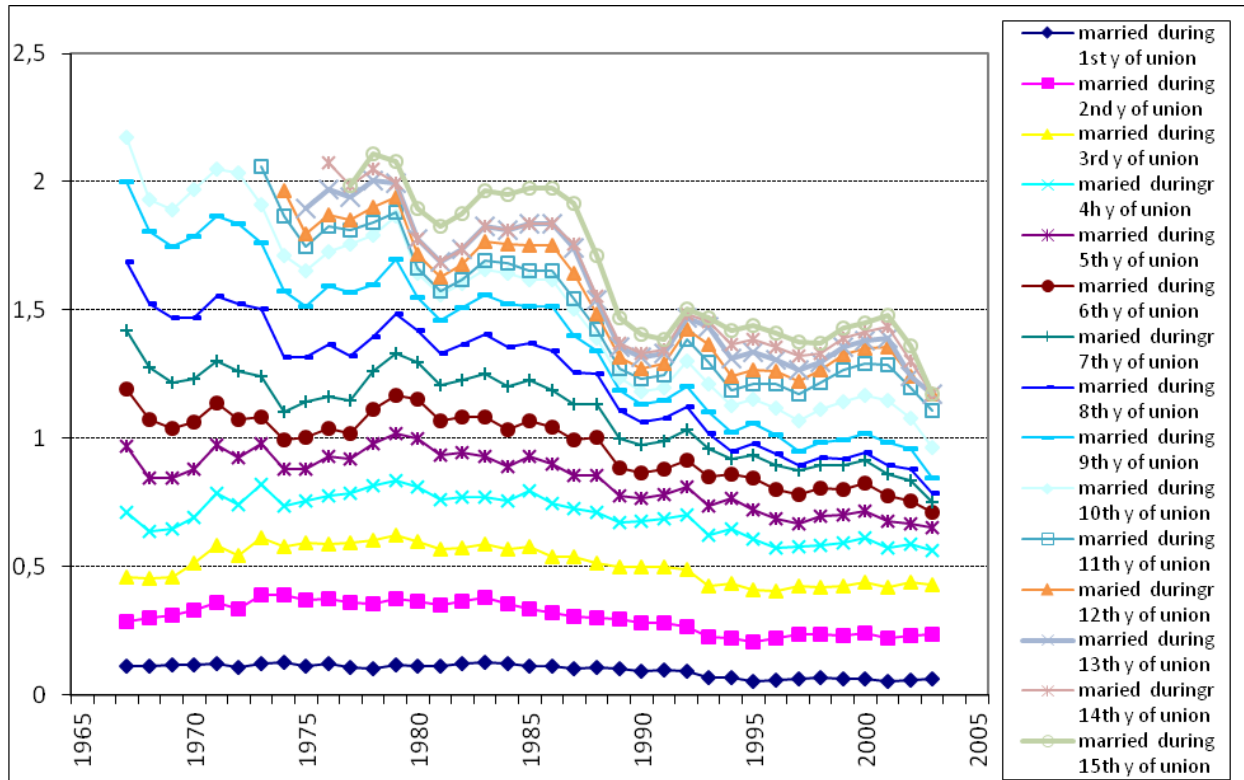**Figure 3. Duration-based Total Fertility in a consensual union, by union duration. Romania 1965-2005**

Figure 4. Duration-based Total Fertility in a consensual union, by duration at conversion into a marriage

Findings

As we see from Figure 1, for direct marriages the total fertility in marriage decreases monotonically as educational attainment rises. Most of the years the total fertility for directly-married women who are under education is roughly as high as that for women at a middle-level completed educational attainment. This is a higher total fertility for students than we are used to seeing. Perhaps the fact that these women are married, suggests that their marital status overrides the reduced fertility often found for women in education in other populations. It may also (at least partly) be an artifact due to the fact that we have needed to record a woman as under education even in periods where she has interrupted her studies since complete educational histories are not available in the data.

The consistently negative educational gradients are faithfully reflected in the diagram for consensual unions also (Figure 5),[7] but the fertility for cohabiting female students is not as high as in the case of directly married women. Births in consensual unions seem to be more characteristic of women with low educational attainment, and only recently (after 2000) have they increased slowly for students or for highly educated women. Romanian society has started to accept modern behavior like consensual unions and non-marital births in wealthy cities like Bucharest, but only recently (Dohotariu 2010). Otherwise, consensual unions in Romania rather take the forms of "concubinaj", which is a pre-modern behavior specific for poor couples with a minimum level of education, living most often in rural settlements.[8]

In Figure 5 we have also plotted the official TFR for the whole population and see that its time series is much like the TFR series for women with a low educational attainment. The latter educational group also stands out by having TFR developments that remarkably are much the same in consensual unions as in direct marriages (Figure 6), except that low-educated women in consensual unions seem to be the more sensitive to political developments around the time of the fall of state socialism. Not only do women with only compulsory education have more children in consensual unions than those with higher levels of education, but we can now see that the ups and downs that occurred in the implementation of the pro-natalist policies during communism affected this group of the population more than others (Figure 5). Their increased fertility during the first five years after 1967 (when the sudden introduction of the ban on abortions lead to a doubling of the overall birth rates), and their firmly decreasing tendency in the TFR after 1987 is more visible on the TUFRs of cohabiting women with a low educational attainment than in other union situations or for women on other educational levels. In fact these women depended more on police-type actions of the forced pro-natalist policies, since they had less resources to escape them. In addition, childcare allowances often were, and still are, the main living resources for this poor population segment, which was also less successful on the marriage market. Their plight may also have played a role during the later years of our study, where one can notice a strong decrease of fertility in this group of women from a level around 2.5 before the fall of

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[7] Negative educational gradients are also reported by the 2002 census of Romania. At age 50-54 it found an average number of children by the mother's educational level as follows: without any studies 3.2 children, primary school 3.1, gymnasium 2.6, high school 1.7, and tertiary education 1.4 children.

[8] For this interpretation, see Rotariu (2009, 2010, 2011), who studied vital statistics, and Haragus (2010), who worked with the same data set as we do.

communism to a new level around 1.7 thereafter (Figures 5 and 6). During 1995-2005, market-economy rules played a stronger role on the labor market, and couples with low education had a smaller chance of finding a stable paid job, which meant that child allowances was one of their minimal resources.

TFR levels for women of rural and urban backgrounds have approached each other both for cohabitants (Figure 7) and for directly married women.[9]

Figure 5. Duration-based Total Fertility Rates, specific for consensual unions, by educational level. Romania, 1965-2005. Also official TFR for the whole population
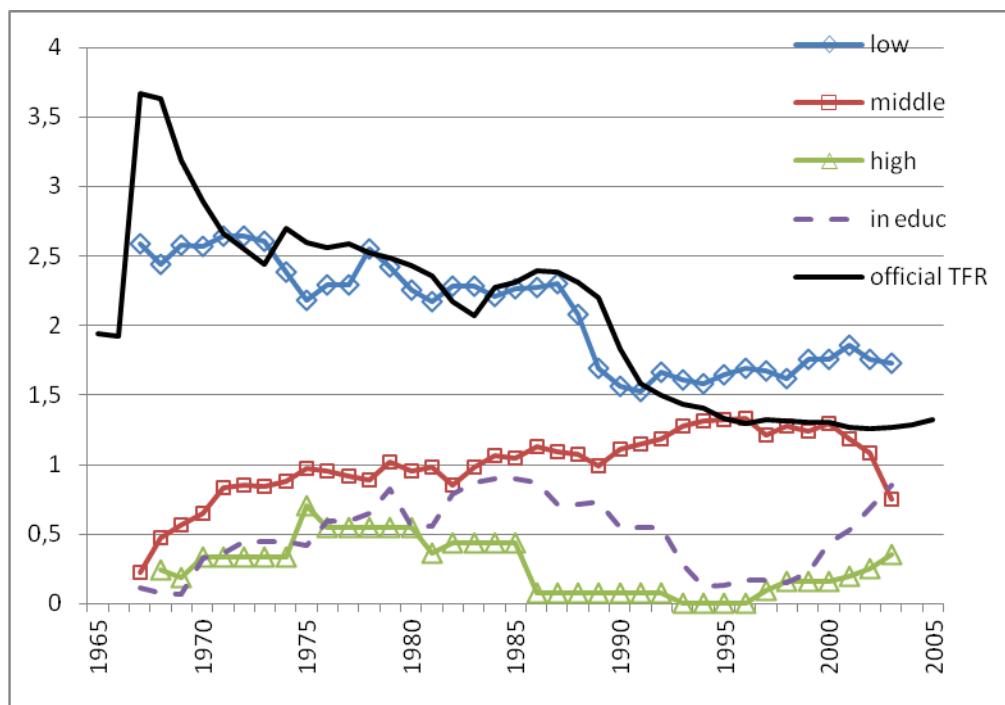
[9] We do not document the latter here.

Figure 6. Duration-based Total Fertility Rates specific for low educational attainment. Cohabiting and directly married women, Romania, 1965-2005
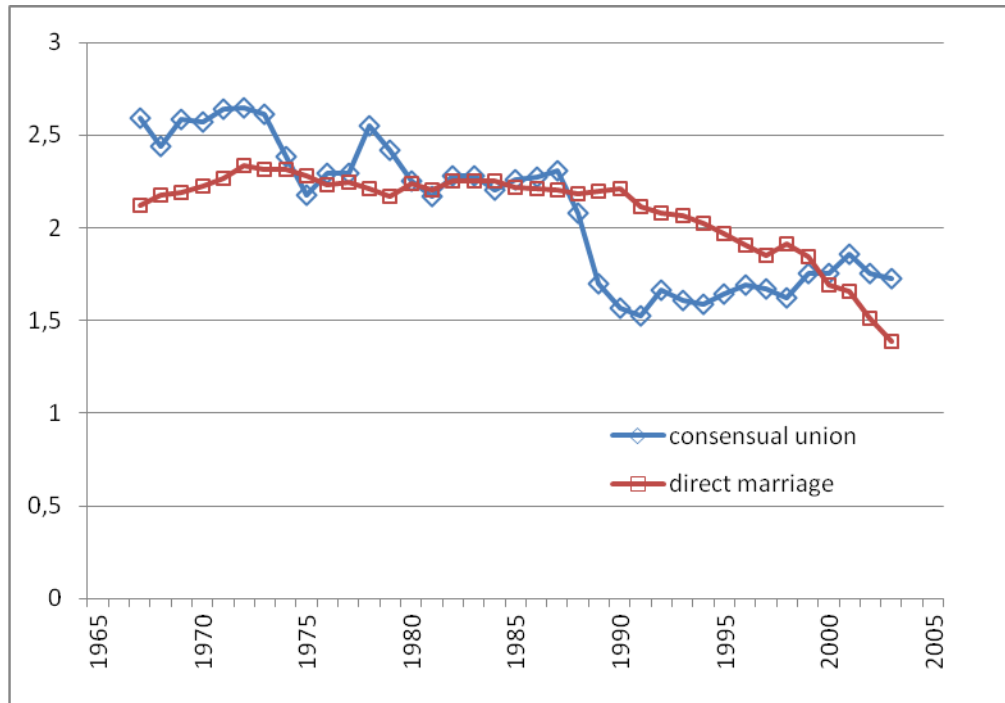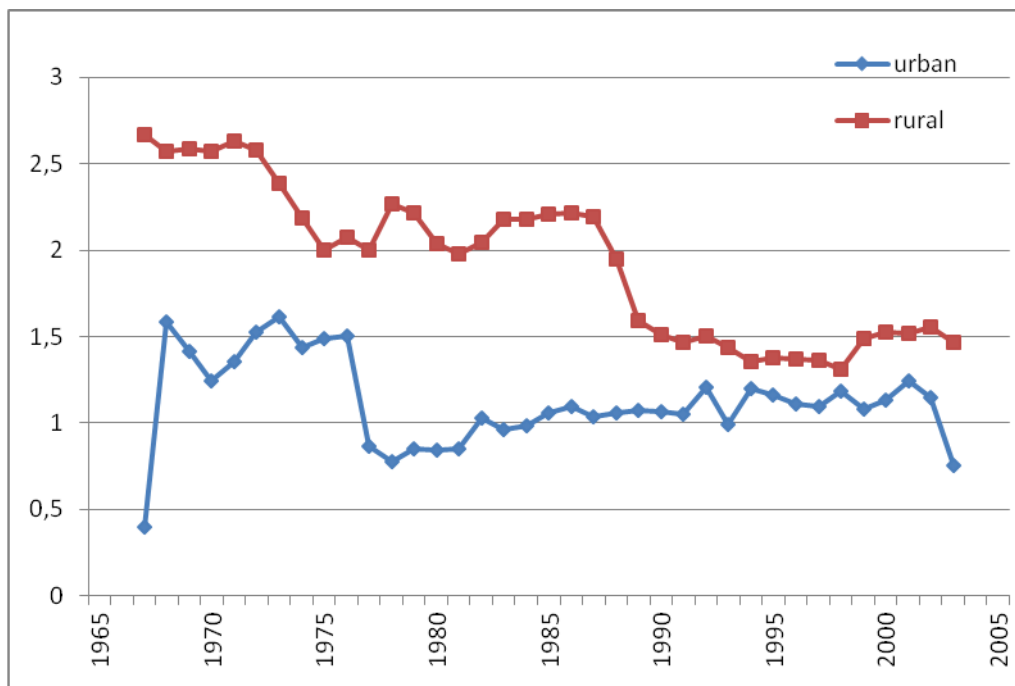

Figure 7. Duration-based Total Fertility Rates for cohabiting women of rural and urban origin. Romania, 1965-2005

Conclusions

Among the patterns that our extensions have revealed are

(a) that total fertility decreases monotonically as educational attainment increases, both for cohabiting and for directly married women, as noted before by Mureşan and Hoem (2010)for all women taken together,

(b) that women with a rural background consistently have a higher total fertility than women with an urban background both in cohabitational unions and in direct marriages, and, more remarkably,

(c) among women with a low educational attainment the total fertility in marital and in cohabitational unions are largely of the same size order.

Our findings neatly complement those of official Romanian statistics, where the 2002 census showed an average number of 1.97 children to couples in consensual unions and the lower average number of 1.72 children to married couples. We have also found a remarkable correspondence between the trends in the official Total Fertility Rate and those of women with low educational attainment in consensual unions, as well as a roughly similar correspondence for rural women in such unions. There is no such correspondence for women with more educational attainment or for women in direct marriages. It is as if developments in the official TFR are driven largely by rural women in consensual unions and by women with low educational attainment in such unions.

References

Dohotariu, Anca (2010). Avec deux, ne faire qu'un: couple et cohabitation hors mariage dans le postcommunisme roumain (Two Only Make Up One:The Couple and Cohabitation about Marriage in the Romanian Postcommunism), *Romanian Journal of Population Studies* 1: 25-38.

Hărăguş, Mihaela (2010). Nonmarital Childbearing in Romania, *Romanian Journal of Population Studies* 2: 44-64.

Hobcraft, John N., Noreen Goldman, and V. C. Chidambaram (1982). Advances in the P/F ratio method for the analysis of birth histories. *Population Studies* 35, 291-316.

Hobcraft, John N. and John B.Casterline (1983). Speed of reproduction. *World Fertility Survey Comparative Studies* 25. ISI Voorburg, The Netherlands.

Hoem, Jan M. and Cornelia Mureşan (2011a). An extension of the conventional TFR. *European Journal of Population* 27 (to appear).

Hoem, Jan M. and Cornelia Mureşan (2011b). The Total Marital Fertility Rate and its extensions. *European Journal of Population* 27(3): 295-312.

Mureşan, Cornelia and Jan M. Hoem (2010). The negative educational gradients in Romanian fertility. *Demographic Research* 22(4): 95-114.

Rotariu, T. (2009). Marital and Extramarital Fertility in Latter-Day Romania. In Fauve-Chamoux, A. and Bolovan I. (eds.) *Families in Europe between the 19th and the 21st Centuries. From Traditional Model to Contemporary PACS*, Cluj-Napoca: Presa Universitara Clujeana, pp. 361-380.

Rotariu, T. (2010). Extramarital Births in Romania versus Other European Countries - A Few Considerations, *Studia Sociologia* 2: 37-60.

Rotariu, T. (2011). Naşterile şi concepţiile extramaritale în România anilor 2006-2008. Cazul primelor naşteri (Non-marital births and conceptions in Romania 2006-2008. The case of the first birth). In P. Ilut (ed.), *Studii de sociopsihologie*, Cluj, Presa Universitară Clujeană: 17-38.