Contemporary union formation in Bulgaria. The emergence of cohabitation.

Elena Koytcheva*

Paper to be presented at the XXV International Population Conference of the International Union for the Scientific Study of the Population, Tours, France, July 18-23, 2005

DRAFT VERSION
Do not cite or quote

Introduction

The demographic changes that were observed in all the Eastern European countries in the last 15 years have not surpassed Bulgaria. Only for 15 years (from 1986 until 2001) the population has decreased with one million, which is a result from the negative natural increase and the high emigration. The drop of birth rates and the decline of marriage rates have started already in the 1980s, but these changes increased in speed after 1990 and reached values never observed before in the history of Bulgaria. After 1997 a slight stabilization appears as the fertility recovers and the negative values of the natural increase get lower. However, the values of these coefficients are far away from the ones observed before the start of the transition of the country towards a market economy.

* Max Planck Institute for Demographic Research. Contact: Koytcheva@demogr.mpg.de

Amongst all of these changes, the recent developments regarding the *interrelated processes* of union formation and childbearing in Bulgaria constitute a particular interest for demographers. Some scholars have argued that what we observe today is a consequence of economic crisis, and the postponement of life course events will decrease as the economic situation of the country improves (economic interpretation). Others claim that also cultural aspects such as the adoption of liberal western values by the young generations will lead to a profound change in the Bulgarian family and fertility demography (cultural interpretation). However, due to a prior lack of data and analytical methods, the empirical basis that is required to support or refuse one or the other interpretation has remained weak. This paper draws on results of a recent dissertation project (Koytcheva, *forthcoming*) and examines the recent changes in marriage and cohabitation and their relation to childbearing in detail. In particular, we study women's behavior regarding entering a direct marriage, forming a cohabitation and later transferring it into a marriage, and becoming a mother. We pay particular attention to women's ethnic group affiliation and education level as cultural indicators of the individuals.

Background

The Bulgarian family and fertility demography has been massively affected by postponement processes. Bulgaria has traditionally been a country in which the birth of first child occurred at very young ages compared to other European countries. For instance, for a very long period (at least from the 1950s), the average age of first birth for women stayed around 22 years. The tendency in the last 10 years shows a gradual increase and in 2001 it reaches the level of 23.8 years. In addition, the difference between this measure and the mean age at birth becomes smaller during the last years. This can be explained with a rising share of women who stay with one child, that is, for many women the average age at birth and first birth is identical. Since the 1980s, also the number of marriages has decreased substantially. The delay of marriages has been confirmed by the literature (Sougareva, 1995). More and more people enter marriage at later ages, compared to the years before. Before 1990, the mean ages at first birth and first marriage for women have been quite stable. The mean age at marriage was about 21.4 years and the mean age at birth at about 22.0 years. The difference between them was always around 0.6 to 0.8 years, and until 1994 the

average age at first marriage has always been lower than the one at first birth. After 1994, this tendency has reversed and a new phenomenon appeared: the mean age at first birth has fallen below the mean age at first marriage, and the share of out-of-wedlock births has increased. While in the 1980s approximately every tenth child was born out of marriage, in 2001 it is almost every second. A similar increase is observed in all the Eastern European countries but Bulgaria is one of the leaders in this respect.

This process of births outside marriage is closely connected with another new phenomenon in the models of family formation – the so-called cohabitation. While in Western Europe this model of family is very popular for decades (van de Kaa, 1987), it is still very new for the countries of the Eastern block. In the Bulgarian scientific literature the new terminology of cohabitation is introduced by Kostova (2000) and defined as "the living together of two people from different gender, in which they live like married people without having an official marriage for different reasons such as impossibility or unwillingness, temporarily or in principle". The latest data show (Belcheva, 2003) that 13.1 of the population in ages 15-59 live together without being married. According to the data of the last census, the share of cohabiting people at ages 15-29 is 17.6%, at ages 30-44 it is 12.1 and at the older ages (45-59) it is 10.4%. This is a new tendency of family formation in Bulgaria and this process has not been deeply investigated up to now. What we know, however is that the high percentage of out-of-wedlock births "is not necessarily synonymous with children being born outside a family union of some type" (Council of Europe, 2001).

The most common explanation for the observed changes in the countries from the ex-socialist block is the impact of the economic crisis and the process of ideational changes. We want to mainly investigate the possible impact of the value changes in Bulgaria on the union formation patterns. Of course, we do not want to neglect or minimize the impact of the economic changes. We fully agree that the transition to market economy has an enormous impact on the demographic behavior of the population. However, we want to put more stress on the ideational changes as according to our opinion, it is not sufficiently investigated in the existing scientific literature.

The basis of the theories of ideational change is the proposition that values and traditions of people change with time. These theories search for an answer to the question how values change and shape fertility by affecting the choice of the people when to have a child or if to have a child at all, when to marry or to marry at all. The idea of changes in the value system of the societies and their impact on the fertility behavior of the people is most often associated with the notion of a Second Demographic Transition which was introduced for the first time by Lesthaeghe and van de Kaa (1986). Their theory is based on the observed tendencies in the western countries. Lesthaeghe and Surkyn (1988) outline two main mechanisms, which lead to changes in the values and aims and the resulting of it preferences of the people. The first mechanism refers to the economic growth and its influence on the value changes and needs from "irreducible needs" to "higher order needs". The second mechanism deals with the role of the social stratification and education in the process of the cultural transmission (Lesthaeghe and Surkyn 1988).

One of the main ideas in the classical theories of Tard (1890) and Sorokin (1947) is that the cultural changes start from the higher strata in the society as a result of the privileges, education and concentration of means and opportunities; the lower social strata perceive the new preferences through imitation. In this connection diffusion theory is a potential explanatory model for demographic changes. The diffusion of ideas, behavior and techniques is often considered to follow the routine established from the social-cultural forces like language, ethnicity, living quarter, working place or canals of communication and exchange (De Bruijn 1999, Bernardi, 2003, Kohler et al., 2001). According to Kirk (1996) diffusion is not only a residual effect, it is an active factor in the increase or slowing down of the birth control.

This paper argues that these theoretical frameworks may be a crucial tool for the understanding of Bulgaria's changing family and fertility demography. The analyses we present in this paper aim at contributing to the empirical evidence on the ongoing demographic change in Bulgaria and put these theories to an empirical test with recent individual-level data and hazard regression models. As a proximity for the value difference in the different segments of the population we use ethnicity and education level. The main ethnic groups in Bulgaria are: Bulgarians (about 80 % of the population), Turks (about 10 %) and Roma (about 6-8 %) and they differ largely in

their traditions, religion and values. That is why we suppose that each of the ethnic groups in Bulgaria has a different reaction to the political and societal change in the country when considering the fertility and family formation patterns.

We also consider education level as an indicator for different social status in the society and having impact on the fertility and family decisions of the individuals. Women with higher education may have more liberal views regarding family values and thus be more inclined to live in consensual unions and bear children in them. On the other hand, we consider the lowly educated women as more traditional and tending to legalize a relationship as soon as pregnancy is recognized. We divide the educational levels in three groups: primary, secondary or higher.

Data and methods

For the complimentary analyses of family formation patterns, we use a new data set coming from the Survey "The Young People – Partnership, Marriage and Children"[1] in Bulgaria. The survey took place from June to September 2002. The sample of the survey was based on the data from Census 2001 and includes 10,009 participants aged 18 to 34 at the time of the interview. We restrict our study only to the female participants in the survey. This data set is a first of its kind in Bulgaria that includes union histories of the respondents. As little is known about the changes in the family formation patterns in Bulgaria, analyzing the transition to first union formation will substantially contribute to understanding the demographic changes in Bulgaria. We can analyze the family formation patterns only for the period after 1985 as the respondents in the study are from very young cohorts. The oldest cohort was aged 22 in year 1990. This period for the analyses is well suited because we know that most of the changes that appear in the transition to first union formation took place since the end of the 1980s. This data allows us to follow the changes throughout the 1990s and to account for the effect of cohabitation on fertility.

[1] This survey is better known as "Social Capital Survey". We also will adopt this name for convenience and for the sake of brevity.

In the present paper we study the transitions to direct marriage, to cohabitation, to marriage after cohabitation and to first birth. On the analyses on the transition to union formation we take into account the motherhood status of the women (if they are pregnant or have children) and on the analyses on the transition to first birth we take into account the union status of the women. We use event history analyses as in our view it is the most suitable method of studying the individuals' life-course transitions. For the analyses of each of the processes we use separate model. The mathematical expression of our models read:

$$\ln h(t) = \gamma\, \mathrm{T}(t) + \beta' \mathrm{X}(t)$$

where ln $h(t)$ is the logarithm of the risk of occurrence of the event in moment t, $\gamma\, \mathrm{T}(t)$ covers the risk duration of the event and $\beta' \mathrm{X}(t)$ represents the (time-varying) covariates, which affect the risk of occurrence of the event. The baseline hazard duration dependence, $\gamma\, \mathrm{T}(t)$, in our models is always a piecewise-linear spline. Each of the covariates included in the models contributes to the shift of the baseline.

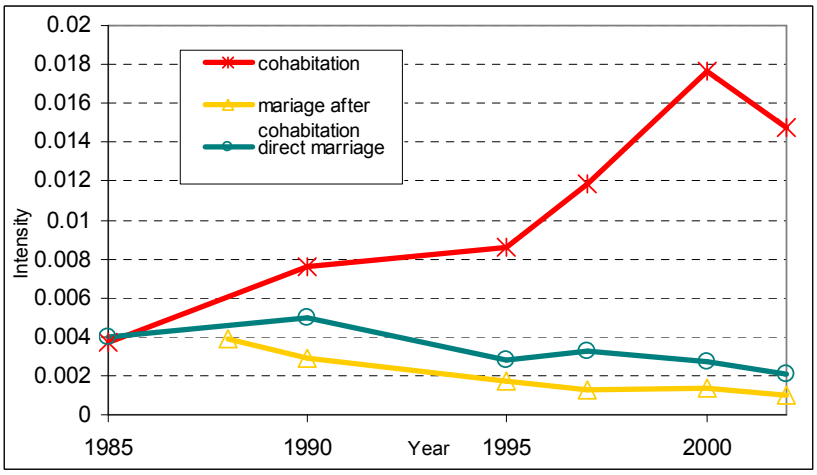
For the transitions to direct marriage, cohabitation and first birth we start to observe the women as soon as they become 13 years old and for the transition to marriage after cohabitation the starting point is the time at forming a cohabitational union. The time-varying covariates are calendar time, age of the woman, education level, education enrolment, motherhood status and union status. Time-constant variables are ethnic group, number of siblings, place of residence till age 15 and level of religiosity. For the estimation, we use the statistical software aML, version 2.0 developed by Lillard and Panis (2003). The data preparation is done with the help of the Stata software package, version 7.0

Results and Discussion

We are not going to discuss the impact of each included variable on family formation and transition to motherhood. Rather, we want to concentrate on the effects of ethnic group and education level and discuss the changes in time that have occurred. To start with, we will have a look at the development of the intensity of union formation and

first birth through the calendar years. We plotted the results in Figure 1. Our results of the full model for each transition under study we present at the Appendix (Tables 3 to 6).

Figure 1: Intensities of direct marriage, cohabitation and marriage after cohabitation by calendar year



(1) The starting point of the intensities for marriage after cohabitation and direct marriage are changed in order to achieve a comparable scale for all three intensities.

The first clearly visible trend in the union formation pattern is that marriage intensities (both direct and after cohabitation) go down and at the same time the cohabitation risk is strongly rises. This proves the decrease in the rate of marriage transitions for women in Bulgaria during the 1990s. Since the start of the transition of the country, women are less susceptible of conducting marriages. The number of people who are prone to start their union formation as a consensual union gets higher. The tendency is a reduction of formation of marriages (direct or after having a cohabitation)– trend that is observed through the last twelve years and does not have a sign of a slowing down. However, to big part this is compensated from the newly emerged family formation pattern – the cohabitation. There is a clear rise in the intensity of forming a cohabitation unions, especially after 1995.

There could be two major reasons for the change in the marriage behavior of the women. The one is the economical deprivation. For instance, it has long been

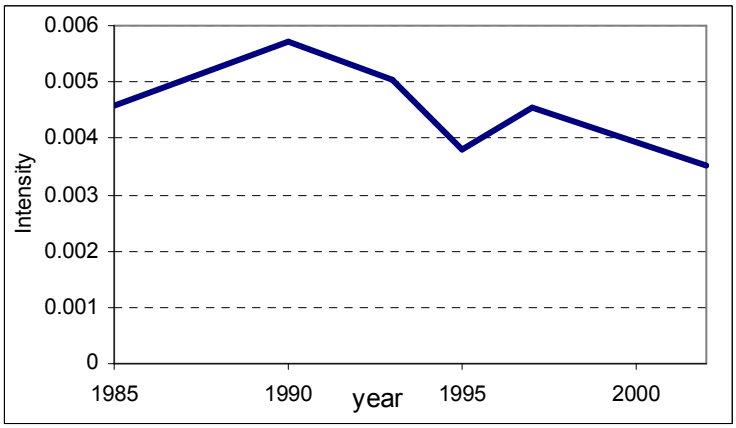
recognized that marriage rates increase in times of prosperity and decrease in times if recession (Bracher and Santow, 1998). Also, marriage is viewed as a long-term commitment and people usually consider well their action before getting married. They try to marry the most suitable partner according to their requirements. An individual without job and good future prospects does not have good positions on the marriage market[2]. Thus, we suppose that fewer people are ready to start a marriage before making sure they have a prospective job and some security in life. Marriage rates could be also affected by worsening expectations about future living standards as a whole (Cornia and Paniccia, 1996).

The other reason could be the emergence of new family formation pattern, namely cohabitation. The emergence of such a new pattern shows either a change in the societal norms or a less importance of these norms or, mostly probable, both. The societal pressure for living together only when married is loosing its strength. Moreover, even people who tend to transform their consensual union into a marriage are getting less. This shows that for many people it is not of great importance if their union is a legal marriage or consensual union. This is a sign for clear changes in the value orientations of people in general and less social pressure for marriage. Also, this could be an indication that converting cohabitation into marriage is independent of any direct measure of economic independence (Bracher and Santow, 1998). There have hardly been any signs for such development during the state socialism and this novel behavior has its strong onset only after start of the political and economical transformations in the country.

In another estimation, we find a steady decline in the tendency of giving birth to a child (see Figure 2). Till 1990 we observe a rise in the first birth intensity and after that a steady decline with a trend of recovery after 1995. However, the tendency of decrease still remains till the end of the observation period.

[2] This argument, according to us, refers not only to the attractiveness of men on the marriage market, but also to women. In the Bulgarian society, the role of women is visioned not only as a mother and housewife, but also as an active participant in the labor market with a possible career orientation.

Figure 2 First birth intensity by calendar year.



Our results for this trend through time show that the pro-natalistic policies that were operating in the country had influence till the end of the 1990s. After the fall of the Berlin wall, the government could not control the fertility and give the strong support to the mothers any more. Additionally, people faced many other changes in their lives. New cultures and views came from the western countries, new opportunities appeared in the life course of the individuals and contributed to changes in the life styles. Also, the economic transition affected people's lives as they had to cope with situation of uncertainty which they have never experienced before. All this contributed to the postponement of childbearing. The decision to have a child was replaced to a later stage in life of the Bulgarian woman.

It is interesting to see if all these trends are observed for each of the main ethnic groups in Bulgaria. In order to have a better view on our results, we summarize the results obtained for each transition under study in Table 1 (the full results are presented in the Appendix).

Table 1: Relative risks of transitions to direct marriage, cohabitation, marriage after cohabitation, and first birth according to ethnic group.

	Transition to direct marriage	Transition to cohabitation	Transition to marriage after cohabitation	Transition to first birth

	Relative risk	Sig.	Relative risk	Sig.	Relative risk	Sig.	Relative risk	Sig.
Ethnic group								
Bulgarians (ref)	1		1		1		1	
Turks	1.34	***	1.13		0.66	**	1.19	***
Roma	1.49	***	2.60	***	0.41	***	1.33	***
Other	0.90		1.26	*	0.97		1.09	

***: $p \leq 0.01$ **: $0.01 < p \leq 0.05$ *: $0.05 < p \leq 0.10$.

Our results show that from all the ethnic groups, the Bulgarians are the least prone to enter a direct marriage or cohabitation, that is to form a union. On the contrary, the Roma population has the highest risk of forming a family, especially pronounced in the case of entering a cohabitation. Once a cohabitation is formed, women coming from the Bulgarian ethnical group tend to transform it into marriage, while the Roma group for instance is the least susceptible of doing so. These results show than in general, the Bulgarian women postpone the formation union at most, compared to the other ethnic groups and they favor at most marriage as a form of union.

There could be several possible explanations for the high risk of cohabtation for the Roma group. One of them is that the Roma usually start their sexual life in very early ages (Yachkova, 1998) and it is not unusual for them to have a child before age 16[3]. In this age group it is not that easy to get married in Bulgaria as many authorities are involved (including court). So, it can be considered that many Roma simply do not get married or delay marriage for this very reason (Kaltchev, personal communication). Another explanation could be that usually the Roma group is lowly educated, suffers strongly from the unemployment and lives usually on social help. A mother gets higher social help if she is a "lone" mother, that is, not married. However, the most common and plausible explanation goes into a different direction. The reasoning comes from the cultural and anthropological studies. According to some studies in Bulgaria (Pamporov 2003), after 1990 the Roma population has returned back to their old customs and morals and lives according to their own traditions. This suggests that they conduct marriages according to their customs, which does not include visiting the town hall. In other words, it is possible that the Roma population form marital unions, but not according to the "official rules", which leads to this "bias" in the statistical results. Whatever the true reasons for the low intensity of entering a

[3] The available data is very scarce on this issue. According to NSI, at the time of the Census, of all the Bulgarian women aged 15 and below, about 0.01 % had a child. The equivalent percent for the Roma women is 0.9 (NSI, 2001).

marriage is, we want to underline that, according to us, what we observe is not a change in the values and ideas as seen in the theory of the Second demographic transition, but rather economical motives or ethnic-cultural peculiarities (Ilieva 1995).

The results for the transition to motherhood show that the highest disposal for first birth has the group of the Roma population. Except for the high fertility intentions, the Roma group is characterized by early age of start of childbearing. Additionally, we do not find very strong differences between the reproductive behavior of the Bulgarians and the Turks. Similar results have been obtained in many other studies too (Zhekova 2001, Philipov 2000, etc.).

The large differences between the Roma group and all the other ethnic groups has drawn the attention of many scientists. Sougareva (1995) argues that the Roma people traditionally get married in earlier age groups and in comparison to the other ethnic groups the transition to first child occurs much earlier. According to Zhekova (2001) the high fertility in the Roma group is a result of the cultural and value differences and of the higher number of unwanted births. The Roma have higher percentage of unwanted births as they have a lower level of use of effective contraceptive means (Yachkova, 1998) as well as low family planning when compared to the other ethnic groups in Bulgaria (Zhekova, 2001).

In addition, we can return again to the study of Pamporov (2003) where he argues that the Roma population returns back to the traditions, values and social strategies that were prevailing in the times before the start of the communist regime. This return to the old values is considered to be a part of the copying strategies of the Roma that they perform in order to overcome the difficulties in the new economic and political system. As a result of this, the demographic behavior of this ethnic group is very similar to the one that was characteristic before the start of the first demographic transition, namely extremely high mortality and high fertility. The different behavior of the Roma group can also be regarded as a kind of ethnic identification, which becomes more and more substantial on the Balkans as a whole.

The other very important question is if the differences in the education level are substantial for the family formation trends and the transition to motherhood in

Bulgaria. In Table 2 we have summarized our result for the education level and each transition under study.

Table 2: Relative risks of transitions to direct marriage, cohabitation, marriage after cohabitation, and first birth according to education level of the women.

	Transition to direct marriage		Transition to cohabitation		Transition to marriage after cohabitation		Transition to first birth	
	Relative risk	Sig.	Relative risk	Sig.	Relative risk	Sig.	Relative risk	Sig.
Education level								
Primary	0.68	***	1.04		0.54	***	0.90	*
Secondary (ref)	1		1		1		1	
High	1.10		0.66	***	1.35		0.96	

(3) ***: $p \leq 0.01$ **: $0.01 < p \leq 0.05$ *: $0.05 < p \leq 0.10$.

Our results show that the women with the lowest education have the lowest transition to direct marriage. However, the trend in the cohabitation is much more different. We find out that women with higher education are the least susceptible to forming a consensual union, while between the secondary and primary educated women we do not find any difference. On the other hand, women with higher education tend to transform their cohabitation into a legal union, while women with primary education are the least prone to enter a marriage after being in cohabitation.

Contrary to the expectations that women with higher education are the heralds of new ideas and the ones who first accept the non-marital cohabitation (Lesthaeghe, 1995) here we see that this is not the case in Bulgaria. It turns out that women with primary education also have low risk of entering a direct marriage and women with high education are the least prone to form a cohabitation. There could be several reasons for this finding. We suppose that women with primary education belong to the group of people having no good position on labor market and thus the delay of marriages is caused by financial difficulties. Cohabitation requires less investment and does not involve long-term commitment. Therefore it might be a preferred replacement of marriage for the lowly educated women (Thornton et al., 1995). Furthermore, the finding that the higher educated women are highly inclined to enter a marriage does not support the neoclassical economic theory (Becker 1991). This theory states that the higher the education of women the lower the women's gains from marriage.

However, this hypothesis is based on the traditional division of labor in the household. Other authors have already stated that the economic theory does not catch all the gains that one has in a marriage like for instance psychological or social gains (Berrington and Diamond 2000). Another reason for the higher proneness of the higher educated women to enter a marriage could be the longer time that they invest in education. Usually they postpone the union formation activities till they finish education and after that within a short time they form a family. This trend is known as the time-squeeze effect (Kreyenfeld, 2002, Bracher and Santow1998). Similarly, Billari and Philipov (2003, p.214) find for the case of the Eastern European countries that "entry into first unions is much more linked to end of education than to the achieved level of education". Coppola (2003) also finds out that the human capital investment seems to accelerate rather to delay the process of union formation. Higher propensity to marry after being on cohabitation for the higher educated women is also found for the case of Sweden (Duvander, 1999). One of the explanations for this trend is that the couples with more economic resources have higher gain from marriage.

In our analyses we were not able to find any significant differences between the education level of the women on the risk of first birth. The lack of any difference between the education levels could be due to the fact that the transition to first birth in Bulgaria is still a very universal process – more than 90 % of the women have at least one child. The women, who nevertheless stay childless, do not differ obviously by education level. In other words, the education does not influence the transition to motherhood. We would assume, that staying childless is either unwanted or is a decision that is not influenced by the education attainment.

We also find that the enrolment in education has a strong impact on the transition to first union formation (See Appendix). Our results show that being in education leads to significantly lower level of willingness to form a family – no matter if we are talking about marriage or cohabitation. Additionally, it turned out that the education enrolment does not have any impact on the transition from cohabitation to marriage. This comes to show that being in school matters only for the first union formation process. If a woman has formed already an union, then the education enrolment does not play any role in the transformation of this union. The negative association between education enrolment and cohabitation or marriage is found in other studies

too – Hoem, 1996; Thornton et al, 1995; Bracher and Santow, 1998; Goldscheider et al, 2000; Baizan et al, 2003; Coppola, 2003; Nazio and Blossfeld, 2003, to name a few. A spread view for this trend is that the school enrolment delays women's transition to adulthood, in line with the normative expectations that when women are in school, they are still not 'ready' for marriage and motherhood (Blossfeld and Huinink, 1991). Also, it is regarded that a woman in studies is economically dependent on her parents (Blossfeld and Huinink, 1991), which affects her ability to marry or forma a union. In general, students have less money, time and inclination for the commitments of marriage (Hoem, 1986). Additionally, this causality could be operating in both ways. From one side, women in school are unlikely to feel that they have the financial resources to get married, but also for women who are facing economic constraints is much more difficult to become a student (Rindfuss and Van den Heuvel, 1990). Sander (1992) also suggests that schooling could be correlated with unobservables (for instance, the rate of time preferences) that affect the marital status.

An important question is the influence of childbearing on the decision and timing of family formation as well as the influence of family formation on the decision to have a child. Our results show (see Appendix) that there is a strong connection between the two processes.

Although we find that the cohabitation is gaining more popularity among the Bulgarian population, it is also true that when it comes to raising children, still many women prefer this to happen in a legal marriage. The results show a great importance of the first pregnancy on the transition to first marriage. That is, women who experience premarital pregnancy are highly inclined to get married (Blossfeld and Huinink, 1991; Billari and Kohler, 2000, Goldsheider et al., 2000). The high proneness of single women to get married when they become pregnant could be connected to their high desire to offer their child the social and economic environment and protection that normally accompanies a union (Baizan et al., 2003). Other explanations for this trend is that the social norms that support the marital fertility still prevail in the Bulgarian society. In the last years there would be many couples that cohabit, but obviously, when it comes to children, most of them prefer to have the

children in an official, legal marriage. Similar results are received in other studies in Bulgaria, for instance by Mirchev (1998).

Not surprisingly, the results on the influence of union formation on the childbearing decisions showed that the married women have the highest proneness of having a child, compared to women who have never been married or to divorced and widowed women. A woman gets married when she plans to have a child or just gets a child as soon as she marries. The strong link between bearing children and the decision to get married is found to be important in other studies too (Hoem and Selmer, 1984; Blossfeld and Huinink, 1991; Thornton et al., 1995; Billari and Kohler, 2000; Buber, 2001 to name a few). However, further investigation is needed to estimated the strength of the relationship between the marriage and first birth, which is out of the scope of this paper.

Conclusion

The results on union formation by ethnic group allow us to conclude that there are different patterns of forming a family for each of the ethnic groups. The Bulgarians start with the family formation process later than the other ethnic groups and most of their unions are marriages. If the union starts as cohabitation marriage usually follows shortly. The Roma group is highly prone of starting a union either by entering a direct marriage or by starting a cohabitation. In the case of cohabitation, the chance that it is transformed into a marriage is very low. The Turkish ethnic group stays in its trends somewhere between the Bulgarians and the Roma. They have a comparatively early start in family formation, and they tend to form direct marriages and at the same time are highly inclined to form a consensual union. If a cohabitation is formed it is not much probable either that it will turn into a marriage.

In our analyses on the effect of the different cultures on the first birth process we found out that the Roma ethnic group has the highest proneness of childbearing. This shows that the different ethnic groups respond in different way to the changes in the economic situation on the macro level. This proves that except for the economic reasons, we should pay attention to the cultural and value differences when we study the fertility behavior in a country like Bulgaria.

The results on family formation patterns according to the level of education of women also showed interesting relations, which turned to be a little bit surprising. We expected that the lower education strata of the Bulgarian society are more "traditional" and would rather opt for marriage than consensual unions, but this is clearly not the case. It appears that the highly educated women are not the innovators in the spread of cohabitation in Bulgaria. Moreover, the expected "traditional" impact of education shows up when we analyze childbearing behavior: highly educated women have reduced intensities of first conception.

One may conclude from all this that the changes in one society affect the different strata of the population with different strength and direction. In general, the Bulgarian ethnic group and the highly educated women are most prone to delay union formation and childbearing. As we argued above, we do not view the high proneness of the Roma population to form cohabitational unions as an ideational change, but rather as a coping strategy of overcoming economic difficulties. Up to now, there are not many studies with which we can compare our results. For instance, Philipov (2001) claims out that the Roma group has still not finished the first demographic transition. Of course, the change of values and transition or the return to old customs is a slow process and requires a longer time span. A longer period of investigation is necessary in order to detect the real trends for each strata of the population.

However, we have to bear in mind that these results refer only when studying each of the transitions separately and not directly accounting for the interrelatedness of these processes. A finer analyses is needed to find the real correlation between the decisions of the women to form an union and become a mother.

Appendix

Table 1 Transition to direct marriage. Relative risks.

	Spline gradient	Sig.
Constant (baseline)	-6.904	***
Age (baseline)		
13-16 years (slope)	1.111	***
17-19 years (slope)	0.333	***
20-22 years (slope)	0.049	
23-25 years (slope)	-0.004	
26-28 years (slope)	-0.095	
28 + years (slope)	-0.045	
Calendar year		
< 1990 (slope)	0.043	
1991 – 1995 (slope)	-0.112	***
1996 – 1997 (slope)	0.070	
1998 – 2000 (slope)	-0.057	
> 2000 (slope)	-0.132	*
	Relative risk	Sig.
Ethnic group		
Bulgarians (ref)	1	
Turks	1.34	***
Roma	1.49	***
Other	0.90	
Education level		
Primary	0.68	***
Secondary (ref)	1	
High	1.10	
Education enrolment		
Out of education (ref)	1	
In education	0.56	***
Motherhood status		
No child, no pregnancy (ref)	1	
No child, 1st pregnancy	21.55	***
Parity 1	1.68	***
Parity one, pregnant	3.01	***
Parity 2	0.50	*
Number of Siblings		
0	1.07	
1 (ref)	1	
2	1.07	
3 +	1.05	
Place of residence (till age 15)		
Urban	1	
Rural	1.15	***

Level of religiosity	
Religious	0.98
Not religious	1
Log-likelihood	-8366.83

***: $p \leq 0.01$ **: $0.01 < p \leq 0.05$ *: $0.05 < p \leq 0.10$.

Table 2 Transition to first cohabitation. Relative risks.

	Spline gradient	Sig.
Constant (baseline)	-5.706	***
Age (baseline)		
13-16 years (slope)	0.312	***
17-19 years (slope)	0.104	**
20-22 years (slope)	-0.001	
23-25 years (slope)	0.065	
26-28 years (slope)	-0.154	
29-31 years (slope)	-0.277	
31 + years (slope)	0.234	
Calendar year		
< 1990 (slope)	0.141	***
1991 – 1995 (slope)	0.028	
1996 – 1997 (slope)	0.163	**
1998 – 2000 (slope)	0.137	***
> 2000 (slope)	-0.086	
	Relative risk	Sig.
Ethnic group		
Bulgarians (ref)	1	
Turks	1.13	
Roma	2.60	***
Other	1.26	*
Education level		
Low	1.04	
Middle (ref)	1	
High	0.66	***
Education enrolment		
Out of education (ref)	1	
In education	0.41	***
Motherhood status		
No child, no pregnancy (ref)	1	
No child, 1st pregnancy	5.42	***
Parity 1	0.68	**
Parity one, pregnant	0.80	
Parity 2	0.18	***
Number of Siblings		
0	0.84	
1 (ref)	1	
2	1.47	***
3 +	1.97	***
Place of residence (till age 15)		
Urban	1	
Rural	1.41	***

Level of religiosity	
Religious	0.94
Not religious	1
Log-likelihood	-5527.04

***: $p \leq 0.01$ **: $0.01 < p \leq 0.05$ *: $0.05 < p \leq 0.10$.

Table 3 Transition from cohabitation to marriage. Relative risks.

	Spline gradient	Sig.
Constant (baseline)	-3.236	**
Time since start of cohabitation (baseline)		
0-3 months	4.806	***
3-6 months	-1.232	
6-9 months	-2.783	*
9-12 months	0.913	
12-24 months	-0.296	
24 + months	-0.121	*
Calendar year		
< 1990 (slope)	-0.157	
1991 – 1995 (slope)	-0.100	*
1996 – 1997 (slope)	-0.162	
1998 – 2000 (slope)	0.024	
> 2000 (slope)	-0.146	
Age (baseline)		
13-16 years (slope)	0.378	
17-19 years (slope)	0.370	***
20-22 years (slope)	0.028	
23-25 years (slope)	-0.032	
26-28 years (slope)	-0.046	
28 + years (slope)	-0.017	
	Relative risk	Sig.
Ethnic group		
Bulgarians (ref)	1	
Turks	0.66	**
Roma	0.41	***
Other	0.97	
Education level		
Low	0.54	***
Middle (ref)	1	
High	1.35	
Education enrolment		
Out of education (ref)	1	
In education	1.17	
Motherhood status		
No child, no pregnancy (ref)	1	
No child, 1st pregnancy	4.05	***
Parity 1	0.53	***
Parity one, pregnant	0.99	
Parity 2	0.68	
Number of Siblings		
0	0.81	
1 (ref)	1	
2	0.76	*
3 +	0.71	*

Place of residence (till age 15)	
Urban (ref)	1
Rural	1.08
Level of religiosity	
Religious	1.07
Not religious (ref)	1
Log-likelihood	-1557.09

***: $p \leq 0.01$ **: $0.01 < p \leq 0.05$ *: $0.05 < p \leq 0.10$.

Table 4 Transition to first birth. Relative risks.

	Spline gradient	Sig.
Constant (baseline)	-5.537	***
Age (baseline)		
13-16 years (slope)	0.707	***
17-19 years (slope)	0.227	***
20-22 years (slope)	-0.063	**
23-25 years (slope)	-0.078	**
26-28 years (slope)	-0.047	
29+ years (slope)	-0.103	
Calendar year		
1985 – 1990 (slope)	0.048	
1991 – 1993 (slope)	-0.048	
1994 - 1995 (slope)	-0.128	**
1996 – 1997 (slope)	0.005	
1998 - 2000 (slope)	0.058	*
2001 - 2002 (slope)	-0.235	***
	Relative risk	Sig.
Ethnic group		
Bulgarians (ref)	1	
Turks	1.19	***
Roma	1.33	***
Other	1.09	
Education level		
Low	0.90	*
Middle (ref)	1	
High	0.96	
Education enrolment		
Out of education (ref)	1	
In education	0.46	***
Union status		
Single	1	
Cohabiting	7.51	***
Married directly	11.38	***
Married after cohabitation	13.75	***
Number of Siblings		
0	0.95	
1 (ref)	1	
2	1.22	***
3 +	1.31	***
Place of residence (till age 15)		
Urban	1	
Rural	1.13	**

Level of religiosity	
Religious	0.99
Not religious	1
Log-likelihood	-11456.91

***: $p \leq 0.01$ **: $0.01 < p \leq 0.05$ *: $0.05 < p \leq 0.10$.

Reference list

Baizan, P., Aassve, A. and Billari, F.C. (2003) Cohabitation, Marriage, and First Birth: The Interrelationship of Family Formation Events in Spain. *European Journal of Population* 19, 147-169.

Becker, G. (1991) Assortative Mating in Marriage Markets. In: Anonymous *A Tretise on the Family*, Enlarged Edition edn. Cambridge: Harvard University:

Belcheva, M. (2003) *Census 2001, Volume 6: Sample Surveys, Book 2: Fertility and Reproductive Behavior*, Sofia, National Statistican Institute, Bulgaria: Dunav press (in Bulgarian).

Bernardi, L. (2003) Channels of Social Influence on Reproduction. *Population Research and Policy Review* 22, 527-555.

Berrington, A. and Diamond, I. (2000) Marriage and Cohabitation: A Competing Risks Analysis of First-Partnership Formation among the 1958 British Birth Cohort. *Journal of the Royal Statistical Society: Series A (Statistics in Society)* 163, 127-151.

Billari, F.C. and Kohler, H.-P. (2000) The Impact of Union Formation Dynamics on First Births in West Germany and Italy: Are There Signs of Convergence? *MPIDR Working Paper WP 2000-008*

Billari, F.C. and Philipov, D. (2003) Mutual Relationship Between Education and Women's Entry into a First Union: the Case of Central and Eastern Europe. In: Kotowska, I.E. and Jozwiak, J., (Eds.) *Population of Central and Eastern Europe. Challenges and Opportunities*, pp. 201-218. Warsaw: Statistical Publishing Establishment]

Blossfeld, H. and Huinink, J. (1991) Human Capital Investments or Norms of Role Transition? How Women's Schooling and Career Affect the process of Family Formation. *American Journal of Sociology* 97, 143-168.

Bracher, M. and Santow, G. (1998) Economic Independence and Union Formation in Sweden. *Population Studies* 52, 275-294.

Buber, I. (2001) The Effect of the Completion of Education on Entry into Motherhood in Austria. *Vienna: Institute for Demography. Austrian Academy of Sciences. Working paper Nr. 22*

Coppola, L. (2003) Education and Union Formation as Simultaneous Processes in Italy and Spain. *MPIDR Working Paper WP 2003-026*

Cornia, G.A. and Paniccia, R. (1996) The Transition's Population Crisis: An Econometric Investigation of Nuptiality, Fertility and Mortality in Several Distressed Economies. *MOST* 6, 95-129.

Council of Europe (2001) *Recent Demographic Developments in Europe*, edn. Council of Europe Publishing.

De Bruijn, B. (1999) *Foundations of Demographic Theory. Choice, Process, Context*, edn. the Netherlands: Thela Thesis.

Duvander, A.-Z.E. (1999) The Transition From Cohabitation to Marriage. A Longitudinal Study of the Propensity to Marry in Sweden in the Early 1990s. *Journal of Family Issues* 20, 698-717.

Goldscheider, F., Turcotte, P. and Kopp, A. (2000) Determinants of Women's First Union Formation in the United States, Canada, and Sweden. *Paper, presented at the 2000 Flagship Conference of the Family and Fertility Surveys Project, Brussels*

Hoem, J.M. and Selmer, R. (1984) The Negligible Inflience of Premarital Cohabitation on MArital Fertility in Current Danish Cohorts, 1975 . *Demography* 21, 193-206.

Hoem, B. (1996) The Social Meaning of the Age at Second Birth for Third-Birth Fertility: A Methodological Note on the Need to Sometimes Respecify an Intermediate Variable. *Yearbook of Population Research in Finnland* 33, 333-339.

Ilieva, N. (1995) Having Many Children in Contrast to the Total Marital Fertility in Bulgaria (1906-1992). *Naselenie* 1-2, 17-34 (in Bulgarian).

Kirk, D. (1996) Demographic Transition Theory. *Population Studies* 50, 361-387.

Kohler, H.-P., Behrman, J.R. and Watkins, S.C. (2001) The Density of Soical Networks and Fertility Decisions: Evidence from Sounth Nyanza District, Kenya. *Demography* 38, 43-58.

Kostova, D. (2000) Family Forms and Reproductive Adjustments in Bulgaria. *Naselenie* 1, 77-82 (in Bulgarian).

Koytcheva, E., forthcoming. Socio-Demographic Differences in Fertility and Family Formation in Bulgaria before and after the Start of the Societal Transition. Dissertation project

Kreyenfeld, M. (2002) Time-squeeze, Partner Effect or Self-selection? An investigation into the positive effect of women's education on second birth risks in West Germany. *Demographic Research* 7,

Lesthaeghe, R. and van de Kaa, D.J. (1986) Lesthaeghe, R. and van de Kaa, D.J., (Eds.) Mens en Maatschappij.

Lesthaeghe, R. and Surkyn, J. (1988) Cultural Dynamics and Economic Theories of Fertility Change. *Population and Development Review* 14, 1-45.

Lesthaeghe, R. (1995) The Second Demographic Transition: An Interpretation. In: Mason, K.O. and Jensen, A.-M., (Eds.) *Gender and Family Change in Industrialized Countries*, pp. 17-62. Oxford:

Lillard, L.A. and Panis, C.W.A. (2003) *aML Multilevel Multiprocess Statistical Software, Version 2.0.*, edn. Los Angeles, California: EconWare.

Mirchev, M. (1998) The Reproductive Behaviour in Bulgaria During the 1990s. *Naselenie* 1-2, 40-51 (in Bulgarian).

National Statistical Institute (2001) *Statistical Yearbook*, edn. Sofia:

Nazio, T. and Blossfeld, H.-P. (2003) The Diffusion of Cohabitation among Young Women in West Germany, East Germany and Italy. *European Journal of Population* 19, 47-82.

Pamporov, A. (2003) The Second Demographic Transition is Impossible: Family Patterns of Roma (Gypsies) in Bulgaria. *poster presented at the Euresco Conference 2003 - The Second Demographic Transition in Europe, Spa, Belgium, 19-24, June, 2003*

Philipov, D. (2000) Population Development in Bulgaria. *Chapter 3 in: New Demographic Faces in Europe*

Philipov, D. (2001) The Demographic Situtation of the Largest Ethnic/Minority Groups in Bulgaria . *Paper Prepared for the Conference on The Demography of the Balkans in the Second Half of*

the 20th Century

Rindfuss, R.R. and Van den Heuvel, A. (1990) Cohabitation: A Precursor to Marriage or an Alternative to Being Single? *Population and Development Review* 16, 703-726.

Sander William (1992) Unobserved Variables and Marital Status. The Schooling Connection. *Journal of Population Economics* 5, 217-228.

Sorokin, P. (1947) *Society, Culture and Personality*, edn. New York: Harper and Brothers.

Sougareva, M. (1995) Marriages and Divorces of the Ethnic Groups in Bulgaria (with the data of the last population census). *Naselenie* 1-2, 113-123 (in Bulgarian).

Tarde, G. (1890) *The Laws of Immitation*, edn. New York: Holt.

Thornton, A., Axinn, W.G. and Teachman, J.D. (1995) The Influence of School Enrollment and Accumulation on Cohabitation and Marriage in Early Adulthood. *American Sociological Review* 60, 762-774.

van de Kaa, D.J. (1987) Europe's Second Demographic Transition. *Population Bulletin* 42, 1-57.

Yachkova, M. (1998) Aspects of the Sexual Behaviour of the Young People in Bulgaria. *Naselenie* 1-2, 135-148 (in Bulgarian).

Zhekova, V. (2001) Reproducative Adjustments and Motives for Giving Birth. *Naselenie* 1-2, 36-55 (in Bulgarian).