

A modern view on aspects of nuptiality in Bulgaria - a period analysis for the period 1990-2022

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Abstract. The aim of this study is to identify the course of change in the nuptiality pattern in Bulgaria in the period after 1990. There has been a significant increase in the average age at first marriage over the past three decades. The main difference between the established in the last century model of universal and early marriage in Bulgaria and the modern model of nuptiality, which expresses the most radical change in it, is related precisely to the late start of the family formation and the first marriage. This study is entirely focused on the fundamental demographic parameters of statutory marriage, i.e., age and sex. For the purposes of this study are traced the changes produced in the first marriage timing among men and women. The change to the age-specific nuptiality model coupled with the increase in the average ages of concluding a first marriage lets confirm the hypothesis on the course of the process of first marriage postponement for a later stage within an individual life cycle.

Keywords: nuptiality, postponement of first marriage, age-specific nuptiality model

Introduction

Since the second half of the last century, a number of changes in the marriage and fertility pattern have been observed all across the European nations, which were associated with a fertility level decrease and detention of fertility below the simple generation replacement level, coupled with a decrease in the nuptiality level and going hand-in-hand with a significant rise seen in the average age upon the birth of a child and the conclusion of a first marriage. The main change in the pattern of nuptiality and fertility would be attributable to the late start of family formation, the increasingly high ages seen at both first marriage and birth of the first child, as well as the spread of cohabitation without marriage plus some other new forms of family.

The concluded statutory marriage¹ completely overlapped the definition of a family model in Bulgaria almost until as late as the end of the last century, and was definitely responsible for more than 95% of all births in the country. Those were times when the family model was characterized by early marriage and an early fertility pattern. Research on marriage during this period would mainly cover and concern marital fertility, where children are presumably born and raised. High nuptiality levels were seen as a *conditio sine qua non* the desired reproduction of the population would be achievable. In the life cycle of a Bulgarian, marriage would necessarily precede the birth of any children, and therefore, this was its main role. Birth of a child would take place quite soon upon the conclusion of a marriage. That used to be the universal established marriage model. After the middle of the 20th century, changes occurred in the nuptiality pattern, first in West Europe's nations, and subsequently in other countries (Hajnal 1965; Hajnal 1982; Laslett 1977; Myron, Leboutte 1984; Weir 1984). In the 1990s, in the context of the Second Demographic Transition, new family forms spread in Bulgaria as well. The so-called cohabitations, i.e., couples living together, were increasingly widespread. The share of so-called extramarital births was increasing significantly to the point where, after 2006, Bulgaria would see the number of these permanently exceeding the number of children born in families formed through statutory marriage. Consequently, the focus of studies dedicated to marriage model in Bulgaria has shifted from traditional marriage to some new family models. Based on the analyses conducted, comes the conclusion that new family models are persistently replacing traditional marriage as a form of family, because they are more acceptable and flexible for a large part of the young generations, especially during the period of the so-called Second Demographic Transition. In other words, the theme of the statutory marriage is being left beyond the margins of present-day themes of scientific research over the last few years. The sequence of occurrence of the events "getting married" and "having a child" is being broken, with most births being categorized as "out-of-wedlock", i.e., children of single parents or children of cohabiting parents. The attention of the researchers is mainly directed to an analysis of the observed radical changes and new family forms, while the legal marriage remains neglected and occupies a peripheral place in the studies of family models. To what extent can we talk about a permanent crisis in the institution of marriage, what are the trends in marriage to date, is there a difference in marriage behaviour in different generations, what are the factors influencing the dynamics of the process, and what are the prospects for marriage as universal family model, are part of the issues that require additional and updated deeper analysis, focused only on parameters and details related to statutory marriage.

¹ In Bulgaria, only civil marriage is recognized as legal. Religious rites and any other declarations or ceremonies have no legal force. Some foreign jurisdictions regard cohabitation as equivalent to a statutory wedlock. This is recognized as personal binding of two partners living together, however with no civil marriage concluded. Bulgaria remains one of the few countries in Europe that does not have a legal regulation of *de facto* conjugal cohabitation in its Family Code.

This study is focused on outlining the dynamics of marriage and, more specifically, the first marriage in Bulgaria in the period since 1990, as well as on building an idea of the development of the process and Bulgaria's place among European countries. One of the main questions to be answered is whether there is a permanent departure from the traditional universal model of marriage and whether the change in observed trends is only temporary. The second research question is to determine whether there is a postponement of the conclusion of the first marriage by analogy with the transition to the birth postponement, which has also been reported in Bulgaria since the beginning of the 1990s.

The process of a significant and permanent increase in the average age at birth of a first child in Bulgaria over the last three decades testifies to the ongoing transition to postponing births (Moraliyska-Nikolova 2021). Moreover, after 1990, there was also a significant increase in the average age at first marriage in Bulgaria, and this age even exceeded the age at birth of a child, which means that the sequence of events in the life cycle had changed. The process of persistent increase in the average ages of concluding a first marriage lets formulate a hypothesis of the existence of a process of marriage postponement for a later stage within an individual life cycle. Postponed marriages would lead to a decrease in the levels of period-related nuptiality and, accordingly, to an increase in of such postponed marriages in case some of them come into effect later. Over the last few years, there has been an increase in the absolute number of marriages, despite the entry of ever smaller young generations into the marriage market. This increase could be due to marriages in the higher age groups that had been postponed in previous periods. In this context, the default methodology for establishing a process of postponing births can be applied to the study of what changes are produced to the older marital pattern in order to be able to draw more reasoned and specific conclusions about the observed changes in the marital pattern in recent decades.

The process of postponing marriage has been studied for a number of European countries (not only), where a significant decrease in the level of marriage indicators has been observed (Goldstein, Kenney 2001; Scherbov, van Vianen 2001). Since the early 1970s, the marriage rate has fallen dramatically in most industrial societies.

Nuptiality has not been thoroughly studied over the last decade in our country. The available statistical studies on marriage and nuptiality in Bulgaria are primarily descriptive and analyse the absolute values of the process, total first marriage rate (TFMR) and the average ages at concluding a marriage. There are a number of studies focused on nuptiality in Bulgaria, analysing the dynamics in the process in a periodic aspect from the point of view of different scientific subjects (Zhekova 2006; Borissova-Marinova 1994; Belcheva 2004; Spasovska 2000; Sugareva 2010; Sugareva, Foteva 1998). A multiaspect analysis of nuptiality was performed based on a compiled multistate marital life table of Bulgaria's female population for 1992, with the results having been compared with the multistate marital life table for

1975 (Philipov 1985), and based on these were formulated some conclusions on the changes having occurred over that 20-year period in the age-specific probabilities of transition of the studied categories of female population according to their marital status (Sugareva, Borissova 1996). Based on the event history analysis with data for Bulgaria, the sequence of events birth of the first and second child, start of cohabitation and marriage was studied. This provides a detailed and more up-to-date idea of the ongoing changes in family behaviour in Bulgaria, especially in the context of the current Second Demographic Transition (Dimitrova 2011).

The research thesis in the present analysis is that the low level of marriage in Bulgaria is due to the change in the older age model of marriage that occurred after 1990, combined with the initiation of a marriage postponing process. **The aim of this study** will be to identify how the age-specific nuptiality model in Bulgaria over the period after 1990 has been changing. To this end, the following research tasks will need to be completed: to calculate and analyse general and specific nuptiality indicators; to examine the change in the average age of first marriage for both sexes; to calculate nuptiality indicators applying the adjustment methods (Bongaarts, Feeney 1998a), net of tempo and quantum effects, i.e., adjusted indicators net of distortions due to changes in the age-specific nuptiality model. The analysis of specific nuptiality data and the calculation of unconventional process indicators will enrich the methodology in the field of nuptiality and family formation research, which would be a good basis for further demographic, social and other multidisciplinary research concerning this specific topic.

In Bulgaria, detailed information on the marriages of the population is collected and published, which makes it possible to conduct an in-depth and multi-faceted analysis of the process. The National Statistical Institute (NSI) statistical information on marriages and the main demographic structures of the population used in this study is available from the current statistics and population censuses conducted in Bulgaria in 1992, 2001, 2011, 2021.

Quantitative changes in nuptiality in Bulgaria

A main analyser of the scale of changes occurring in nuptiality are the quantitative indices of this process. While the first time when the number of marriages plunged below 60 thousand annually was in 1990, over the reference period thereupon the reduction in the absolute number got to values that were over twice as low as the number in 1990, down to 26 thousand in 2023 (Fig. 1).

In the 1980s, the number of marriages ranged from 60 thousand to 70 thousand a year, and in the 1970s, it was almost 80 thousand. The downward trend may be partly explained by the steady decline in the number of new generations entering the marriage market during this period. This should be supplemented by the change in marriage patterns, as well as the emergence of new family forms.

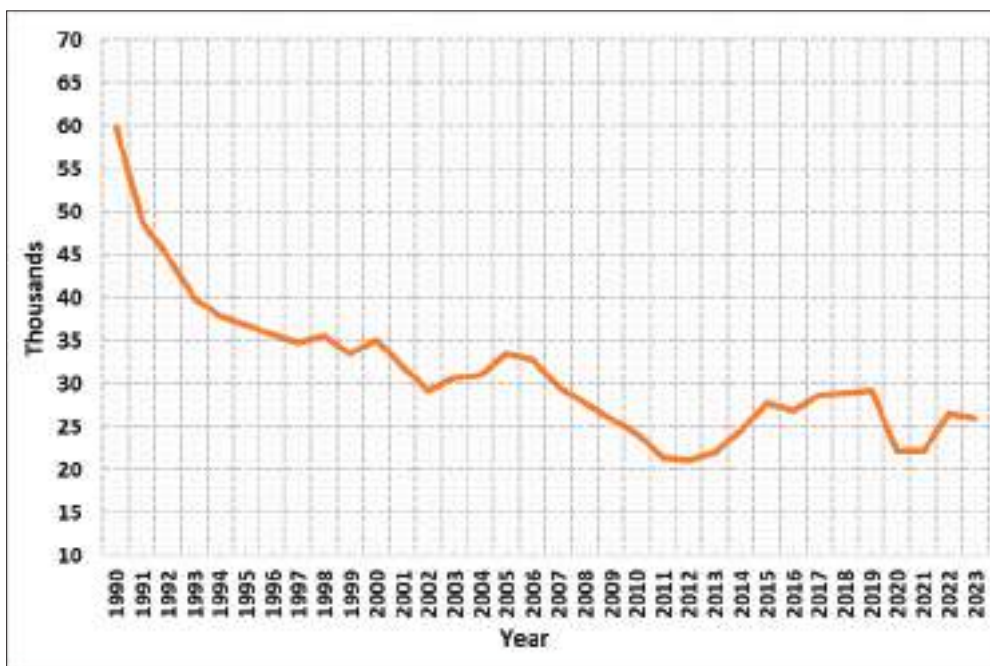


Fig. 1. Dynamics of marriages concluded in Bulgaria over the period 1990-2023 (in absolute numbers)

Source: NSI. Digital library (<https://www.nsi.bg/biblioteka/en/> [Accessed: 27 February 2023]).

While in 1990, the crude marriage rate was below 7.0‰ in Bulgaria in 1991 it got down to 5.6‰. After that year, the number of marriages continued to decline, although there were some fluctuations in individual years. In 2014, the marriage rate in Bulgaria was already 3.4‰. After that, there is some slight increase, so that in 2021 the crude marriage rate goes up to 3.9‰. The decline trend covers all EU Member States (Table 1). At the beginning of the period, the crude marriage rate was the highest in Lithuania and Latvia (9.8 and 8.9‰ respectively) and the lowest in Slovenia, Iceland and Sweden. At the end of the period, the highest-ranking marriage rate was achieved in Hungary while Italy (1.6‰), Portugal (1.8‰), Ireland, and Spain (1.9‰) showed the lowest. While at the beginning of the period, Bulgaria's indicator was above the EU average, at the end it could already be seen somewhere in the middle.

Table 1. Crude marriage rate in EU Member States over the period 1990-2020 (in ‰)

Countries	1990	2000	2010	2020
EC-27	6.3	5.2	4.4	3.2
Belgium	6.5	4.4	3.9	2.8
Bulgaria	6.9	4.3	3.3	3.2
Czechia	8.8	5.4	4.5	4.2
Denmark	6.1	7.2	5.6	4.9
Germany	6.5	5.1	4.7	4.5
Estonia	7.5	3.9	3.8	4.6
Ireland	5.1	5.0	4.5	1.9
Greece	5.8	4.5	5.1	2.9
Spain	5.7	5.4	3.6	1.9
France	5.1	5.0	3.9	2.3
Croatia	5.8	4.9	5.0	3.8
Italy	5.6	5.0	3.7	1.6
Latvia	8.9	3.9	4.4	5.6
Lithuania	9.8	4.8	6.0	5.5
Hungary	6.4	4.7	3.6	6.9
Netherlands	6.5	5.5	4.5	2.9
Austria	5.9	4.9	4.5	4.4
Poland	6.7	5.5	6.0	3.8
Portugal	7.2	6.2	3.8	1.8
Romania	8.3	6.1	5.7	4.2
Slovenia	4.3	3.6	3.2	2.5
Slovakia	7.6	4.8	4.7	4.4
Finland	5.0	5.1	5.6	4.0
Sweden	4.7	4.5	5.3	3.6
Iceland	4.5	6.3	4.9	5.0
Norway	5.2	5.0	4.8	3.3
UK	6.6	5.2	4.5	-

Source: Eurostat. Population and Demography (<https://ec.europa.eu/eurostat/web/population-demography/demography-population-stock-balance/database> [Accessed: 12 January 2024]).

The factors underlying the described dynamics are diverse: different age structure, different homogeneity of the population, different degree of distribution of new family forms.

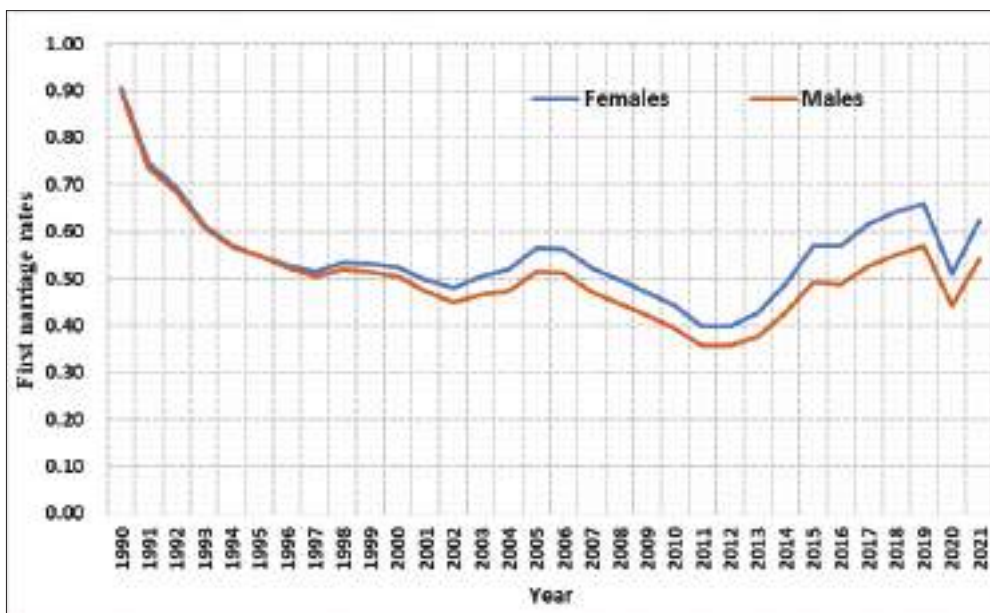


Fig. 2. First marriage rates by age and sex in Bulgaria over the period 1990-2022
Source: Eurostat. Data Browser (<https://ec.europa.eu/eurostat/databrowser/> [Accessed: 14 March 2024]).

Until the middle of the 1990s, the first marriage rates among both men and women in Bulgaria would largely coincide (Fig. 2). Thereafter, there has been a gradual increase in the gap in favour of women, with the gap being the greatest in the years immediately prior to the COVID-19 pandemic. The impact of the pandemic on marriage indicators can be seen very clearly in all the figures presented in the article (characterized by a sharp decline over a short period of time). An explanation for the difference in the rates between the sexes can also be found in the imbalance in the age structures of Bulgaria's marriageable population by gender over that period. In the 1990s, an intensive process of emigration began, involving mainly young people - of working and reproductive ages². Another possible explanation is the fact that men are more likely to marry for the first time at an older age, as this is not closely linked to their capacity of reproduction.

² According to data from the censuses in Bulgaria, the net migration calculated indirectly shows that the scale of the emigrant flow has been the largest over the period between the last two censuses: it reached as many as almost 320 thousand people (187 thousand for the period 2001-2011 and 220 thousand for the period 1992-2001). While in the first decade, 1992-2001, the share of both sexes was equal, and in the second decade 2001-2011 the share of female emigrants was twice as high as that of men, in the last decade men slightly exceeded the number of emigrant women. The main emigrant flow consists of young people in the "under 50 age group". A new trend is the positive immigration in recent years for those over 60, with women twice as numerous as men.

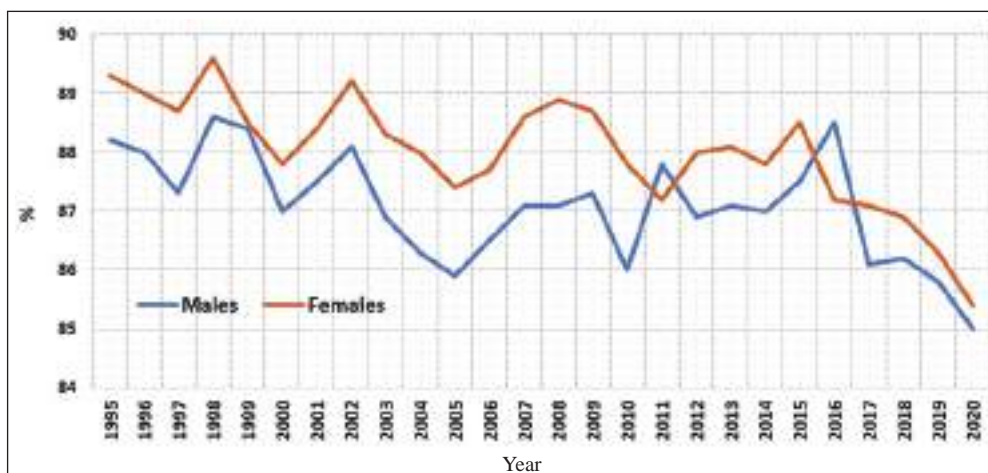


Fig. 3. Relative share of first marriages by sex in Bulgaria over the period 1995-2020 (in %)

Source: After data retrieved from Infostat (<https://infostat.nsi.bg/infostat/pages/external/login.jsf> [Accessed: 27 February 2024]).

The relative share of first marriages would come as an essential characteristic of the age-specific model and of the changes produced in that model. The research of the first marriages is regarded as primordial in the process of finding out what the levels and intensity of nuptiality of a given population, and while identifying if there is a postponement process or not.

Relative share of first marriages for either sex would feature a lasting tendency toward a decline, which shows the gradually growing weight of the total of second marriages vs the overall number of marriages in a given calendar year. If sharpness of decline is considered, it was most pronounced after 2015 (Fig. 3). Data shows that in the case of men, concluding a second marriage is a commoner event than in the case of women where the remarriage pattern is less common. Over the last few years, the difference between the sexes would almost disappear. For 81.6% of men and 80.9% of women, who concluded a civil marriage in 2022, this marriage would be first. The visible decline in 2020 would reflect the first year of the pandemic. The unfolding of the COVID-19 pandemic undoubtedly had a serious impact on demographic indicators, including those reflecting marriage. This clearly shows that in a postponement period, period-related indicators have lower values compared to those that would have been produced if no postponement had been observed. Therefore, the indicators are expected to increase in the coming years, as some of the delayed events will be caught up at a later stage in the absence of deterrent factors.

Regarding remarriages in West-Europe's countries, they are significantly higher in their relative share out of the total number of marriages, if compared to the values produced in Bulgaria. The remarriage rate is around 70% in Belgium, Denmark, Spain, Lithuania, Latvia, the Netherlands, Portugal, Finland, Sweden, Iceland, and Norway. At the other extreme stand Slovenia,

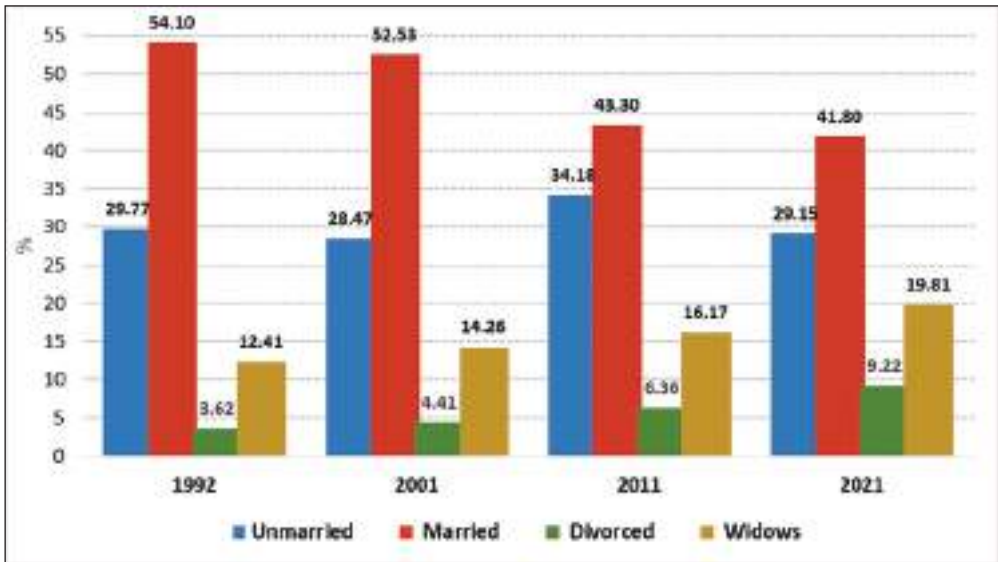


Fig. 4. Distribution of women by legal marital status in Bulgaria in 1992, 2001, 2011, 2021

Source: Prebroyavane na naselenieto i zhlishtniya fond 1992, 2001, 2011, 2021.

Montenegro, North Macedonia, Armenia, and Azerbaijan, where almost all marriages are first: over 90%. In order to interpret these differences correctly, it is important to examine some other parameters of the process: marriage rates, population's age structure, differences in the age pattern of marriage, divorce rates, social standards, family law, social policies concerning families with children, etc., with all of the listed being beyond the scope of this study.

A difference between the two sexes that would deserve our attention is the distribution of the population by sex and legal marital status. Scrutinizing the indicators in their dynamics would yield similar trends appearing in both sexes. According to data retrieved from the last four censuses in Bulgaria, the shares of men and women legally married has been declining steadily - by more than 10 points over this period covering almost three decades. While in the 1990s, more than half of the Bulgarian population would have a legal relationship with a partner, with an average of 55% - in 2011 this share had already fallen to 44%. Between 2011 and 2021, the proportion of unmarried women would decrease in addition to the same trend seen among married women. At the same time, there was a significant increase seen in the proportion of divorced and widowed women (Fig. 4). The high proportion of widowed women could be explained by the higher life expectancy of women, as well as by population's deteriorated age structure and by the higher mortality among men at younger ages. Unlike women, the proportion of men who are not married significantly exceeds that of single women, and this is by almost 10 points, however the proportion of married men also exceeds, albeit slightly, that of married women. The proportion of divorced men is lower than that of divorced women, but this

may be owed to two factors: first, to the higher likelihood of remarriage among men and second, to the higher mortality among men. The most significant difference between the two sexes is the difference in the proportion of widowed men and widowed women over the whole period, which had been increasing and got to more than 15% in 2021. Given the structure of population, which is ageing, the relatively large generations in the old age today, the increased life expectancy, and the difference in the mortality between the sexes seem to be part of the explanations for the fact that by 2021, already 20% of women, i.e., roughly every fifth Bulgarian woman was a widow.

Age-specific nuptiality model in Bulgaria

Another important characteristic of nuptiality would be the change in the average age at concluding a marriage, and more specifically, a first marriage. By analogy with the transition to birth postponement, it can be assumed that the demographic events associated with family formation and childbirth could also be postponed to later ages of the life cycle, i.e., marriages would presumably also take place at older ages. Quantitatively, this delay can be measured by indicators of the average age at marriage. It would be particularly important to emphasize that this change will be most clearly seen in the first-marriage rate.

A comparison of the average age of women at first childbirth and at first marriage will reveal a tendency toward first childbirth preceding the conclusion of marriage. The number and relative proportion of out-of-wedlock births in Bulgaria have increased significantly over the past 10 to 15 years. While in 2000, the country's out-of-wedlock birth rate was 38.4% of all live births, in 2013 it reached a peak of 59.1%. Since 2006, the proportion of these births has consistently exceeded the proportion of marital births.

The average age at first marriage among both women and men has been rising steadily after 1990 (Fig. 5). In 1990, the average age at first marriage in Bulgaria was 23 years: while for women it was 21.5, for men it was 24.6 years, respectively. Over the three-decade period, these ages have increased for both sexes by almost 9 years, reaching 33.4 years for men and 30.3 years for women in 2023. The age difference between the two sexes remains unchanged: just over 3 years in favour of men. The average age in Bulgaria continues to be among the lowest in comparison with other European countries, where the average age at first marriage has long exceeded 30 years (in Sweden, for example, it is 34.8 years, in Spain, it is 34.9 years). The dynamics of this indicator fits within the framework of the theory of the process of postponement of marriages.

In 2021, the average age at first marriage for men and women was 32.8 and 29.8 years, respectively. Compared to the previous year, the average age increased by 0.3 years for men and 0.4 years for women. The persistent upward trend in average ages is seen as an indicator that there is a process of postponing the conclusion of first marriage by analogy with the theory of transition to birth postponement³.

³ In the case of fertility, we speak of a “transition to birth postponement”, when there is a process of increase in the average age at birth of a child by at least 0.3 years over at least three consecutive years. It was first introduced as a term by Kohler, Billari, Ortega (2002).

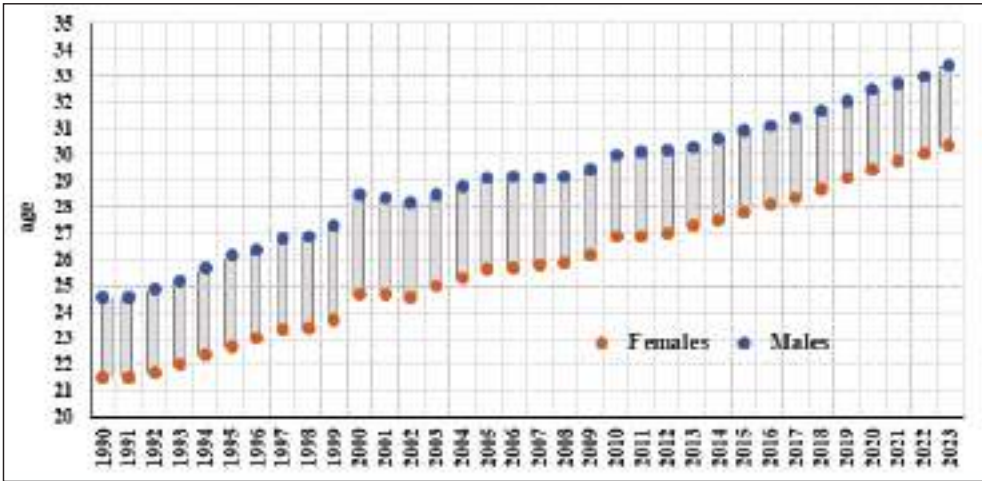


Fig. 5. Average age at first marriage by sex in Bulgaria over the period 1990-2023
Source: NSI. Digital library (<https://www.nsi.bg/biblioteka/en/> [Accessed: 17 March 2024]).

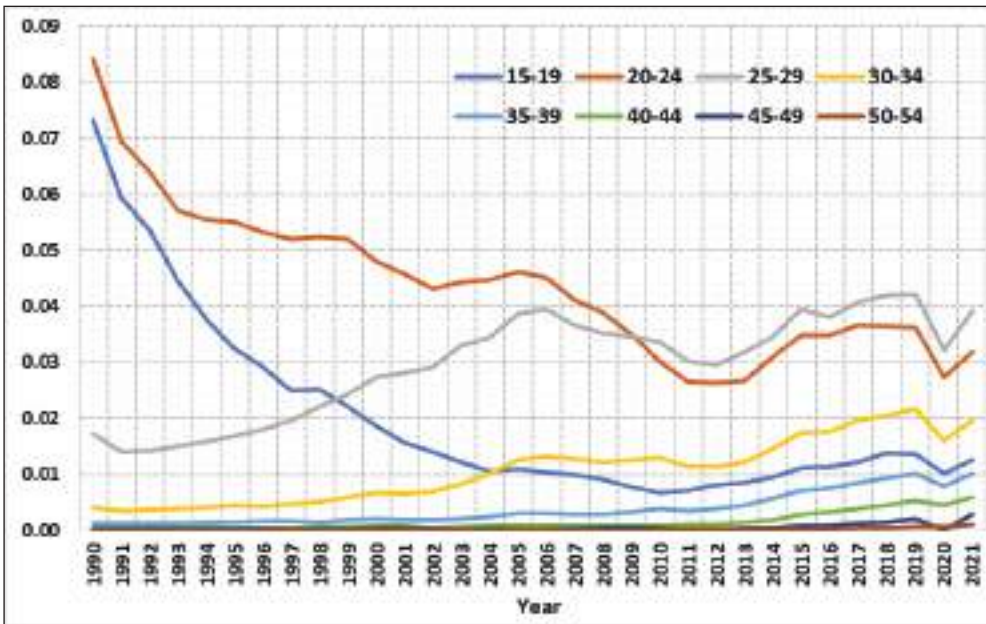


Fig. 6. Age-specific rates of first marriage for women in Bulgaria over the period 1990-2021

Source: Eurostat. Data Browser (<https://ec.europa.eu/eurostat/databrowser/> [Accessed: 17 March 2024]).

At the beginning of the 1990s, a significant number of first marriages would involve women under the age of 24 (Fig. 6). By the end of the reference period, the age group with the highest marriage rate recorded was already the group of those aged 25-29. An increase was also observed in all higher age groups. It is noteworthy that very early marriage among Bulgarian women continued to be high despite the observed significant decline. Getting married within the 15-19 age group confirms the fact that a bipolar model of nuptiality continues to exist in Bulgaria - very early marriage, characteristic of certain groups of the population going hand-in-hand with a newly emerging model of late nuptiality.

Men would also be affected by the above-described reduction in the number of marriages in the 20-24 age group, however, here it is much more pronounced (Fig. 7). In contrast with women, nuptiality in the 25-29 age group among men at first remained at the level of this indicator until 2005, however thereafter has been going down. In the high age groups, the increase in the marriage rates was more noticeable in comparison with women. In turn, the early nuptiality among men would seem not be as visible. In 2022, the highest proportion of married men was in the 30-34 age group with 21.8%, while the highest proportion of women in the 25-29 age group was 23.9%.

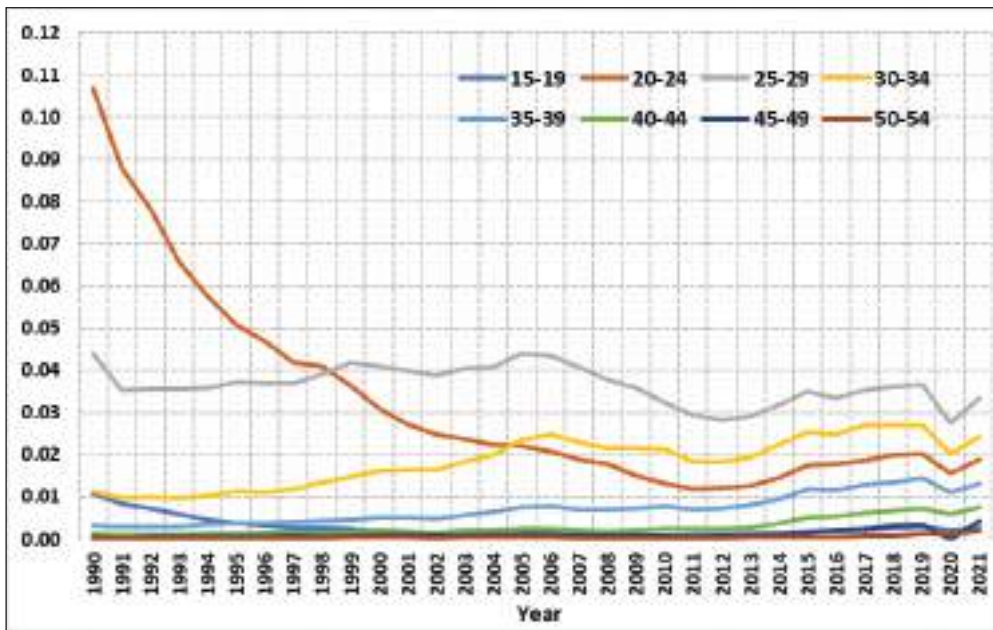


Fig. 7. Age-specific rates of first marriage for men in Bulgaria over the period 1990-2021

Source: Eurostat. Data Browser (<https://ec.europa.eu/eurostat/databrowser/> [Accessed: 14 March 2024]).

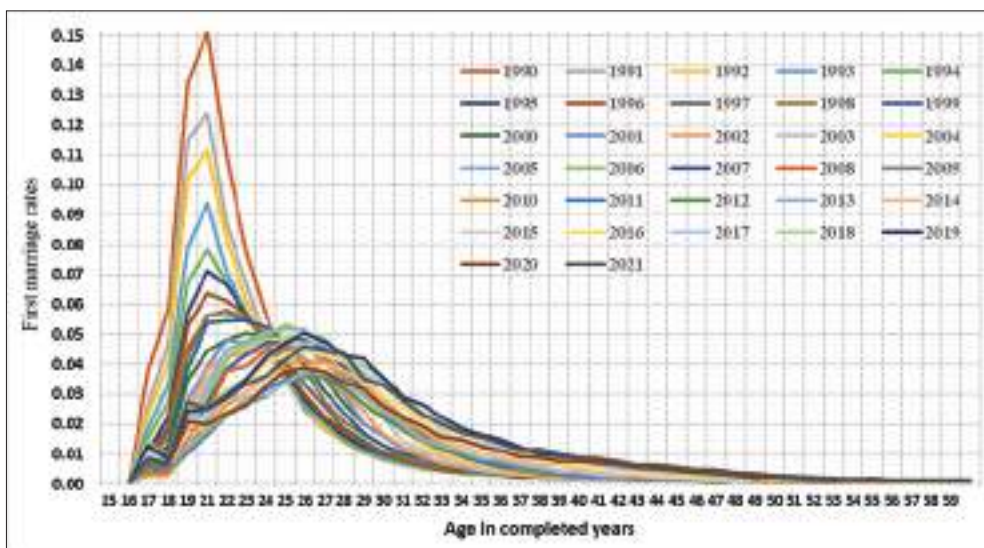


Fig. 8. Age-specific curves of first marriage for women in Bulgaria over the period 1990-2021

Source: Eurostat. Data Browser (<https://ec.europa.eu/eurostat/databrowser/> [Accessed: 17 March 2024]).

Until 2000, the nuptiality model among women would feature a pronouncedly drawn curve to the left and a high, yet gradually diminishing peak (Fig. 8). This would mean that a large proportion of first marriages were celebrated in a narrow age range. Thereupon appeared a dispersion of peaks towards the end of the period and a smaller decline in values, indicating that the age of marriage is now in a much wider age range. Moreover, a shift of the vertices to the right of the numerical axis due to the increase in the age of first marriage is recorded.

There is an identical process that could be observed among men, too, however to a lesser scale (Fig. 9). For example, at the beginning of the period, the tips of the curves are much more rounded compared to those in women, i.e., there is not as pronounced a trend in the indicator. At the end of the period, the curves also clearly delineate the quantitative change in the process, and more specifically in the years of the pandemic.

The results of the analysis of the age-specific curves show a significant change in the pattern of first marriages in Bulgaria after 1990 for both sexes, which is expressed in a shift of the age group where the most first marriages take place, towards older ages. In addition to decreasing in quantity, it is noticeable that first marriages would both occur at older ages and also in a wider age range.

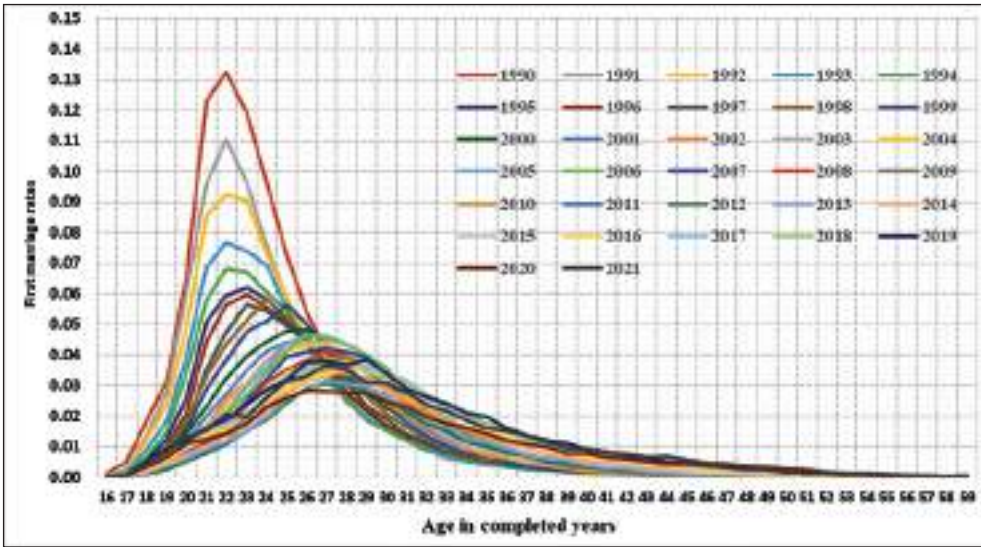


Fig. 9. Age-specific curves of nuptiality for men in Bulgaria over the period 1990-2021

Source: Eurostat. Data Browser (<https://ec.europa.eu/eurostat/databrowser/> [Accessed: 17 March 2024]).

Adjusted first marriage indicators in Bulgaria

In demography, it is common knowledge that observed period-related ratios such as total fertility rate (TFR) and, in this case, total first marriage rate (TFMR)⁴ are affected by changes in the age at onset of the event (Ryder 1956; Ryder 1985; Keilman, 1994; Keilman, Imhoff 1995, etc.). The transition to an older age at childbirth pattern or older-age marriage pattern is often described as a process of ‘postponement’ and leads to so-called tempo distortions, as it has a temporary reducing effect on the periodic levels of the indicators.

The quantum effect reflects the proportion of individuals who would have entered into a first marriage in the absence of changes in the timing of the first marriage event over the period, while the tempo component expresses the distortion that arises due to changes in the timing of the first marriage. In particular, if the average ages at first marriage of women increase without a change in the proportion of first marriages among them, the annual number of first marriages will be lower than it would be, since the same number of first marriages will be spread over a longer period of time. Similarly, if women enter into their first marriages at a younger age, the annual number of first

⁴ Like the total fertility rate (TFR), the total first marriage rate is a hypothetical indicator that describes what proportion of women (men) in a synthetic cohort will marry if they follow the pattern of adult marriage observed during the given calendar year.

marriages will be higher than it would have been because the same number of first marriages will take place in a shorter period of time. These changes in the annual number of first marriages caused by changes in the time of first marriage are called tempo effects. In a period of increasing average ages of first marriage, a process of postponement is observed and TFMR values will decrease, i.e., there is an inverse relationship between the indicators. Due to changes in the average age of women at first marriage (changes in the time of marriage), the TFMR may be overestimated or underestimated, which would lead to erroneous conclusions when examining its dynamics. The TFMR value of 0.91 for women in Bulgaria in 1990 indicates that over 90% of all women in this synthetic cohort would marry if they followed the age pattern of marriage observed during the year. In the year 2020, the TFMR was 0.51, which indicates that one in two women would never enter into a first marriage according to the age-specific nuptiality model that year.

It is therefore not easy to distinguish in a periodic perspective between the 'true' decline (the so-called quantum effect) and the temporary downward influence due to the shifting of the time of marriage (the so-called tempo effect). Several methods have been proposed to correct the tempo effect, the most easily applicable being that proposed by Bongaarts and Feeney⁵. The adjusted coefficient under the restrictions imposed does not tend to provide very precise results but rather draws attention to the need to adjust the tempo component in the coefficients as well as to the adjusted indicators in general. The formula was originally introduced to recalculate cross-sectional fertility rates during postponement of births, and subsequently for marriage. For example, in Austria, Germany and Switzerland, it has been investigated how much of the change in the proportion of women who have married for the first time can be attributed to tempo effects caused by changes in middle-age and its variation, and how much of it is due to quantum effects, i.e., the proportion of women who ever married for the period 1970-2000. In all three countries, a significant proportion of the decline in the proportion of first marriages was due to a distortion in the timing of nuptiality/delay (the tempo effect), although to varying degrees (Winkler-Dworak, Engelhardt 2004). Schoen and Canudas-Romo used a variant of the proposed formula to measure cohort tempo effects on nuptiality and to calculate the ratio of the corrected to the adjusted nuptiality indicator in England, Wales, and the USA (Schoen, Canudas-Romo 2005). Furthermore, the study also proves some significant tempo effects on the nuptiality indicators.

Fig. 10 displays the adjusted first marriage rates as calculated applying the Bongaarts and Feeney formula.

⁵ Bongaarts and Feeney (1998) proposed a formula designed to remove tempo distortion from the period-related indicator based on the age-specific fertility rates and the annual changes in the average age at birth of a child of a given rank:

$$TFR^*(t) = (TFR(t))/(1 - r(t)),$$

where r denotes the change in the periodic average age at birth of a child in year t from the previous year. $TFR^*(t)$ denotes an adjusted TFR, and the tempo effect in the observed TFR is equal to $TFR^*(t) - TFR(t)$.

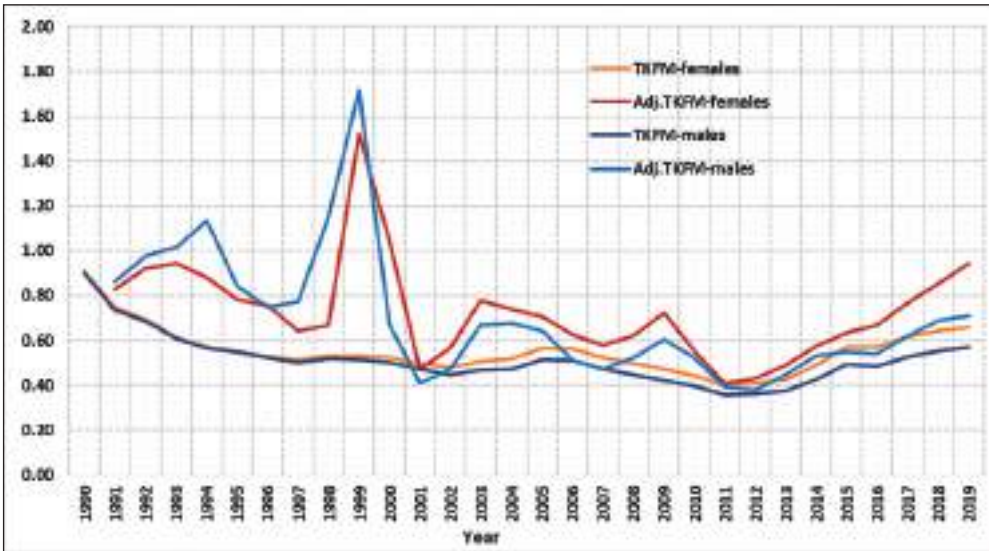


Fig. 10. Total first marriage rate (TFMR) by sex and adjusted first marriage rates by sex

Source: Calculations by the author after data retrieved from NSI. Digital library (<https://www.nsi.bg/biblioteka/en/> [Accessed: 27 February 2024]).

The results obtained show higher values for the adjusted rates than for the conventional rates, suggesting a pronounced tempo effect in a period of increasing average ages of first marriage. This effect leads to a reduction in the values of the period-related nuptiality indicators measured during this period. A convergence of the values of the two sex-specific curves is observed in the absence or slight change in the age indicators. The curves of the adjusted indicators may be below the normal curves when a process of decrease in the age of first marriage is recorded, which however is not observed during the reference period.

The values of the adjusted indicators show that the distortion in the cross-sectional indicators occurs after 1991, when a lasting and significant increase in the average ages of first marriage conclusion began. This means that the change in the nuptiality model occurs just before the transition to postponement of births, which started in Bulgaria in 1992 (Moralyska-Nikolova 2021). This is not unexpected, since in this period these two events had a clear sequence of occurrence in a rather narrow age range. To date, postponement continues in both fertility and nuptiality processes, and this provides us a good reason to believe that there is still a close link between the two processes, which is an issue that will need further study and analysis.

Conclusion

In the period starting in 1990, there has been a significant decline in the absolute number of marriages and in the crude marriage rate in Bulgaria. A similar downward trend has also been observed in other European countries. The factors behind such changes are very diverse - differences in the age structure and size of the population, of immigration and emigration, different degrees of homogeneity in the population itself, different degrees of unfolding of the Second Demographic Transition, different socio-economic contexts and legislation regarding the family, differences in cultural and historical traditions, etc.

At the beginning of the period, the first marriage rate showed a high level of nuptiality for both sexes. More than 90% of men and women in Bulgaria entered into a first marriage, whereas now the figure is around 60%. After the mid-1990s, the values of the indicator for the two sexes began to diverge, with the difference increasing over time. First marriage rates would be higher for women, indicating that they tend to have a higher proportion of first marriages, while men would show a higher proportion of remarriages. Comparatively, remarriages in Bulgaria are significantly less observed than in Western European countries.

Over the reference period, the average age at first marriage increased significantly for both sexes (by almost 7 years). Despite the increase, the average age at first marriage in Bulgaria remains among the lowest compared to other European countries.

The results of the analysis show a significant change in the age-specific nuptiality model in Bulgaria for both sexes during the period considered. The process of a permanent increase in the average age at first marriage indicates a process of postponement of the conclusion of the first marriage in Bulgaria for both sexes. On the basis of the analysis made and the summaries made on the changes in the model of first marriage, it is established that after 1991 a process of postponement of first marriages began in the country. The duration and intensity of this process depends on many factors and it is difficult to predict how long it may last. Unlike fertility, where there is an age range for women in which the event can occur, in nuptiality the process of postponement might continue without an upper age limit being set for it.

Adjusted first marriage rates, cleansed of tempo distortions of the process, are more accurate analysers in the postponement of marriage. Their values are significantly higher than the values of conventional periodic indicators. This demonstrates that in the absence of a change in the age-specific nuptiality model, there would have been more first marriages over the reference period. The adjusted indicators are hypothetical indicators and are designed to partly explain the decline in the marriage rate. It should be borne in mind that first marriages are not only taking place at a higher age and in a wider age range, but they are also decreasing in a quantitative aspect, i.e., in addition to the observed change in the temporal aspect there is also a real decrease in the nuptiality levels, which cannot be explained by the process of postponement. Distinguishing between the tempo and quantum changes in nuptiality will require further study. An estimate of how many marriages are postponed and how many are subsequently

consummated can be given by examining the process from a cohort perspective, but this is beyond the scope of this study. Then we will be able to answer in more detail the question of how much of the reduced number of marriages is due to tempo and how much to quantum changes.

On the basis of the study carried out, the summaries made and the conclusions drawn, the research hypothesis in the present analysis can be confirmed that the low level of nuptiality in Bulgaria is due to the change in the age-specific nuptiality model that occurred after 1990, combined with the start of the process of postponing marriage.

However, despite the changes observed in marriage indicators, there could be no question of a lasting departure from the traditional universal model of nuptiality, as marriage continues to be the preferred form of family, which remains the most widespread, albeit with a changed dynamic in terms of time.

The topic of nuptiality is multifaceted, as marriage is a process that is related to a number of other socio-economic and demographic factors and processes. This study does not cover all the aspects, drivers or factors behind the observed change in nuptiality. This study is entirely focused on the fundamental demographic parameters of statutory marriage, i.e., age and sex. For the purposes of this study are traced the changes produced in the first marriage timing among men and women. Some of the important aspects of modern nuptiality, such as divorce rate, remarriage, de facto marriage, educational status, and fertility, will need further study and analysis. The results obtained from the presented study are a step towards clarifying the extent of the changes and the dynamics of the process, as well as a starting point for future studies on the subject.

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