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# Trends and specifics in the reproductive behaviour of the bulgarian population at the beginning of the 21-st century

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ABSTRACT

The concept of reproductive behaviour of the population is closely linked to the process or reproduction. In a demographic sense, this is the realization of reproductive attitudes in terms of number of children desired by married couples or co-habiting partners. Several synonyms to the term "reproductive behaviour" are used in demographic, geodemographic and sociological research, such as generative, procreative and proliferative behaviour. These serve to express the processes and practical actions involved in the birth and raising of children. In a wider sense, child rearing includes also upbringing and education and even the passing on of certain attitudes toward future reproductive behaviour. Viewed in its narrower essence, reproductive behaviour has two manifestations. The first finds expression in actions ensuring the reproductive process and the second – in actions restricting and impeding this process. These actions are defined with the terms 'birth regulation', 'family control' or 'family planning'. Changes in the social and economic situation in Bulgaria after 1989 led to changes in the reproductive behaviour of the population. The transition from centrally planned economy to market economy and the accompanying economic crisis created conditions for a rapid drop in the economic activity of the population and an increase in unemployment. The sharp decrease in actual income had a very direct impact on the reproductive behaviour of the population during this period. As a result, birth rates rapidly deteriorated, reaching an all-time low of 7.7 ‰ in 1997. The negative changes in the living standard of the population altered the reproductive attitudes of single-child families. Material difficulties experienced during raising of the first child resulted in temporary or permanent refrainment from the birth of a second child. The relative stabilization of the economic situation, which commenced in the beginning of this century resulted in the moderate improvement of some of the indicators related to reproductive behaviour. The birth rate registered at that time (9.8 ‰ in 2007) owes mainly to an increase in the fertility of the childbearing population, measured through the total fertility coefficient. In 2001 the average number of live births per woman was 1.24 and in 2007 – 1.42. Although this small increase in fertility was maintained in the course of the following decade (1.56 children in 2007), Bulgaria remains among the countries with lowest birth rate in the EU. The main issues of the current demographic situation are the increase in the median age of women at first birth, the large share of children born out of wedlock with no registered data on the father and early age at first childbirth. These negative specifics of the reproductive behaviour of the population are further exacerbated by the significant differences in birth rates between towns and villages and different regions and districts within the country.

## Reproductive Behavior of the Population - Essence and Significance

The concept of reproductive behavior of the population is closely related to the process of reproduction. In a demographic sense, it is seen as a way or opportunity to realize the reproductive attitudes of the desired number of children of married couples or partners living on a family basis. When talking about reproductive behavior, some authors use other terms such as generative, procreative and reproductive behavior. They all express processes and practical actions related to childbirth and childcare. According to Mladenov (1981), reproductive behavior should be treated as a system of activities determining the birth or refusal to give birth to a child of a particular order (first, second, etc.). In a broader sense, reproductive behavior should also include the childbirth and raising costs, as well as the expenditures on raising children and education before reaching social maturity. In relation to the interpretation of the essence of reproductive behavior, M. Minkov (1976) defines it as a combination of complex structures, covering the needs of the person and their satisfaction, the interests, the value orientation of humans,

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the norms of behavior and traditions, the processes of motivation and decision-making. This definition emphasizes the importance of both material and purely psychological factors that affect the reproductive behavior of the population.

In a broader sense, raising children can include their education as well as the transmission of a certain type of attitude to their future reproductive behavior. Viewed in purely demographic terms, reproductive behavior has two main directions of manifestation. The first is expressed in actions that provide and encourage the reproduction process, and second - in actions restricting or deterring this process. To express these actions, the concepts of stimulating and regulating the number of births, intimate control or family planning are used. In practice, the guidelines of reproductive behavior coincide with pro-natalist or anti-natalist demographic policies conducted in different countries. In this case, demographic policy manifests itself as an external factor determining the reproductive behavior of the individual person. Unlike the demographic policy that expresses certain public attitudes and demands for the reproduction process of the population as a whole, demographic behavior reflects the personal choice of partners living in marriage or family life. In this sense, coincidence or divergence is possible both between formal policy and personal attitudes and behaviors, as well as between the views of individual partners about their desired number of children. Demographic practice shows that the role of reproductive behavior of the person and family is a major factor in determining the birth rate. The adoption of a particular pattern of reproductive behavior by a larger number of people is essential for the trend in birth rate and reproduction of the population in a particular country or administrative unit.

## Indicators reflecting changes in the reproductive behavior of the population

The two most important indicators used to express the reproductive behaviour are the birth rate and fertility rate. Although very similar in nature, the terms have some differences. In general, birth rate is considered a basic concept that expresses the outcome of the reproductive behavior of women or born children per 1000 people. Considering the similarities and the differences between fertility rates and birth rate, M. Sugareva (2004) determines birth rate as a basic term, and fertility rate as a way of indicating the possibility of conception and birth of children, i.e. the potential birth rate. In demographic and geodemographic scientific articles, the following indicators are most commonly used: Crude Birth Rate, CBR (in ‰), Age Specific Fertility Rate, ASFR (15-19; 20-24 ...), Total Fertility Rate, TFR (15-49) and Net Reproduction Rate, NRR (15-49).

Crude Birth Rate (CBR) is defined as the ratio between the number of live births in a given year and the average annual population. It might be also calculated over a period of several years.

Age Specific Fertility Rate (ASFR) is part of the so-called population specific reproduction coefficients. They are calculated for each five-year age group (15-19, 20-24, 25-29 etc.) as the ratio between the number of live births born by mothers in this age group to the average annual number of women in the same age group. As a source of supplementary information, the curve for the age-old birth rate is used. Through it, a graphical illustration is given about the distribution of the age-old birth rates.

Total Fertility Rate (TFR) is the average number of children (boys and girls) born per woman throughout her fertile period (from 15 to 49 years) during the reporting year.

The Net Reproduction Rate (NRR) represents a relationship between the number of women who gave birth during the year and the number of girls who were born by them in the same year. The indicator shows the average number of girls that a woman would have given birth during her fertile period (15-49 years) and who would have lived until the age at which the mother gave birth, if the fertility rates and mortality rates were the same as those observed in the same year. In other words, how many girls are replaced by one mother during the reproduction regime in the respective year.

## Changes in Reproductive Behavior of the Population of Bulgaria after 1990

Changes in the socio-economic situation in Bulgaria after 1989 have led to changes in the reproductive attitude and behavior of the population. The transition from a centrally planned economy to a market economy and the economic crisis created conditions for a rapid decline of the population and an increased unemployment. Direct impact on the reproductive behavior of the population at that time was the decline in real income. As a result of postponing or abandoning child planning, birth rates quickly began to decline, reaching a record low of 7.7 ‰ in 1997. The negative changes in the living standard of the population have also changed the reproductive attitudes of families with one child. The economic difficulties of raising one child caused a temporary or lasting denial of birth on the second.

Relative stabilization in the economic development of the country, started at the beginning of this century, has led to a certain improvement in some indicators related to the reproductive behavior of the population. The increased birth rates registered during this period to 10.7 ‰ in 2009 (Fig. 1) is mainly due to the increase in the fertility of the child giving women, measured by the total fertility rate. In 2001, the average number of children per woman was 1.24 children comparing to 1.57 children in 2009 (Fig. 2).

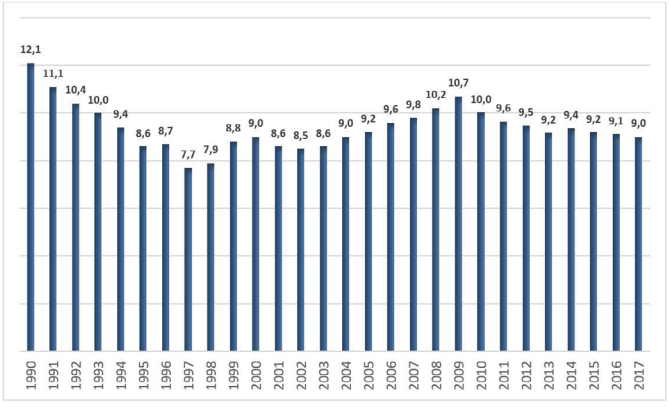


**Figure 1.** Crude Birth Rate in Bulgaria – 1990-2017 (births per 1000 people).

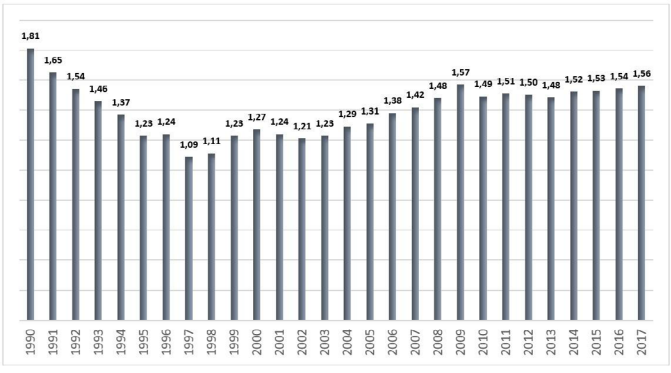


**Figure 2.** Total Fertility Rate in Bulgaria – 1990-2017 (children per women).

Despite the relatively unchanged values of the fertility rate in the period 2011-2017, Bulgaria remains among the countries with the lowest birth rates in the EU. After 2009, the birth rate is gradually decreasing, reaching 9.0 ‰ in 2017 (9.2 ‰ in cities and 8.5 ‰ in villages). The existing difference between the birth rates in both types of settlements is due to the aging processes of the rural population. This process leads to a reduction in the population at a young reproductive age. Particularly significant for birth rates and fertility rates are the changes in the number of women in fertile age in Bulgaria. Their number constantly decrease – from 2,046 million (in 1992), to 1,911 million (in 2001) and 1,672 million (in 2011). Negative role in this direction has also been the intensive emigration of young people to other countries, which started in the 1990s.

Among the factors that led to a decrease in the birth rate after 2009, is the reflection of the global financial crisis that started in 2007-2008. The economic consequences of its manifestation have affected the Bulgarian society to varying degrees. As a significant problem in the current demographic situation in Bulgaria, we can point out three major issues:

- the growth of extramarital births without registered father's data;
- the early births from mothers under 18 years;
- the increase in the average age of birth of first child.

Early births are an example of unconscious reproductive behavior characteristic of pre-adulthood, while so-called postponed births are a sort of conscious action of a particular group of women. In general, under the changing socio-economic conditions, the reproductive behavior of women and families is altering. The restructured women's value system brings to the fore the role of education and employment in order to achieve optimal career development. The direct consequence of these aspirations is the increase in the average age at the birth of the first child from 23.6 years in 1992 to 25.1 years in 2001 and 27.1 years in 2017. As a result, the proportion of women of different age groups who are giving birth is changing. For the period between the last two censuses (2001-2010), the proportion of women aged 20-29 who gave birth declined by 11%. At the same time, there was an increase of 17% in women who gave birth aged between 30 and 39 years. Such a "shift" of the realization of reproductive intentions to older age groups is unfavorable in both demographic and medical-social terms. In practice, this leads to a reduction in the fertile period of women and an increased the risk factors accompanying the pregnancy. In support of this, there are statistical data showing that the one-child model is much more common in women with higher education. On the other hand, mothers who have two or more children usually are with lower degrees of education.

## Demographic Trends in 2017

A comprehensive study of trends in birth rates in Bulgaria, conducted by the National Statistical Institute (2012), shows that women from the Roma (2.0) and Turkish ethnic group (1.7) have the highest number of children. In addition to the psychological attitudes, the younger age structure of these two population groups influences this trend. By comparison, the average number of children born by ethnic in Bulgarian women is only 1.3. Regarding the religious composition, the lowest average number of children are in women with Orthodox Christian faith (1.3). Higher are those with Catholic (1.4), Protestant (1.7), and Muslim (1.8) belief. The actual marital status of women also affects the values. The statistical data shows some differences in the average number of children of married women (1.7) and those in marital cohabitation (1.4). The impact of migrations on the fertility of women also shows interesting results. The data from the above study shows that the average number of children in non-migrant women is 1.4 and in the value decreases to 1.0 if, the women ever migrated.

In 2017, the number of live births in Bulgaria was 63955 or 1029 less than in the previous 2016. Besides the decrease in births as absolute values in recent years, there has been a deepening of some of the above-mentioned unfavorable trends. In 2017, the number of children born of mothers under the age of 18 reaches 3251. The trend of increasing number of children born to women aged 40 and over is preserved. Their number has grown since 2016 (1947 babies) to 2108 babies, in 2017.

Another interesting trend is the growth of extramarital births. Their relative share of 18.5% in 1992 increased to 42.0% in 2001 and reached 58.9% in 2017. It has to be pointed out that for about 3/4 of the extramarital births (77.5%) there is presence of the father and this means that the born children may live and be raised in a family environment by parents living in cohabitation without an official marriage.

Regarding the fertility of women as a whole, it can be said that its level in Bulgaria remains below the necessary minimum (2.1 children), which would provide simple reproduction of the population, i.e. replacing the offspring of the parents with the children's generation. Statistical levels of birth rate and fertility rate, combined with high total mortality rate will continue to determine the decline in the country's population by natural means.

## Regional characteristics of the reproductive behavior of the population in Bulgaria

The unfavorable peculiarities related to the realization of the reproductive behavior of the population in Bulgaria are related to the significant differences in the level of birth rates and fertility rates in both the urban and rural population as well as between the different administrative units. The 28 existing administrative districts in the country can be used as a benchmark. Statistical data from the last census in Bulgaria in 2011 shows significant differences in women's fertility rates, which are determined by the geographical distribution of certain ethnic groups and religious communities. The highest fertility rate at district level is measured in Sliven – 2.3 children[1]. In this region, the compact representation of the Roma ethnic group with a strong influence on the reproductive behavior of women, has a decisive role. The religious factor determines the relatively high values in other areas like Kardzhali (1.7) Razgrad (1.6), Targovishte (1.6) and Silistra (1.6). Religious affiliation also affects the reproductive traditions of Bulgarian Mohammedans (pomaks), and this is reflected in the higher fertility in Pazardzhik (1.7) and Smolyan (1.7).

Part of the regional differences related to the fertility of women are also due to the territorial distribution of the Roma ethnic group and its specific ethno-cultural peculiarities and lifestyle. A typical example are the regions of Sliven and Yambol with an average TFR of 1.6. At the other pole with the lowest fertility of women are the districts of Sofia-grad with an average of 1.1 children per mother. Very close to the values of Sofia-capital are observed in Varna (1.3), Gabrovo (1.3) and Veliko Tarnovo (1.3). The low values can be explained by the impact of urbanization and urban way of life, as well as the higher level of emancipation of women from the Bulgarian ethnic community, especially in big cities.

Differences in the reproductive behavior can also be investigated according to the number of born children. Census data from 2011 shows that mothers with two children predominate in all parts of the country. Their share is higher in the areas with smaller urban

[1]Data from the Census, 2011.

settlements and a lower degree of urbanization – the districts of Kyustendil (48.5%), Sofia (48.2%), and Vratsa (47.7%). The smallest is the share of women with two children in the regions of Sofia-capital (33.0%), Varna (40.6%), Veliko Tarnovo (42.0%), Russe (42.9%). In addition to the impact of urban lifestyles as a factor in the lower share of mothers with two children, it can be said that young women are more committed to developing their education in universities and to find suitable employment. This effectively reduces the reproductive period and leads to the imposition of a one-child model in families. It is no coincidence that the highest relative share of women with one child is in the areas with large administrative cities – Sofia-capital (30.2%), Stara Zagora (26.8%) and Varna (26.2%). Similar values are observed in the areas with the most expressive socio-economic problems - Lovech (29,0%), Vidin (28,6%), Pernik (26,5%) and others. The economic difficulties in their development have a negative impact on the reproductive behavior of the population.

The best situation from a demographic point of view is the observed in the areas with the highest share of mothers with three or more children. Leading in this respect are the districts with preserved reproductive traditions. Those are the above mention regions with certain ethno-religious communities - Kardzhali (21.7%), Smolyan (14.6%), Blagoevgrad (14.6%), Razgrad 14.1%) and Targovishte (13.9%). The group with the lowest relative share of mothers with 3 or more children is the same as the districts with the largest cities such as Sofia-capital (3.6%), Varna (7.2%), Plovdiv (7.5%), with socio-economic problems - Pernik (5.9%), Vidin (7.4%), Kyustendil (7.5%) and others. In the second group, as a leading factor are the financial difficulties of raising the first child. Those problems are the reason for postponing or even giving up the birth of a second child.

Statistical data for 2017 show that territorial differences in birth rates and fertility rates in the different regions of the country are maintained (Fig. 3-8). The dominant impact on higher birth rates and the total fertility rate continues to have a more compact performance of certain ethno-confessional groups and communities in some of Bulgaria's regions. In 2017, comparing the average country's values, we can point out the highest birth rates in the district of Sliven for both the rural and the urban population (Fig. 3).

This is due to the representation of the Roma ethnic group in many of the settlements in the area. The latest data shows that regions with a compact representation of the Turkish ethnic group and Bulgarian-Mohammedans now have significantly lower fertility rates (Fig. 4-5).

It can be said, that the changes are mostly related to the increased migration activity in the above-mentioned population groups. The more preserved age structure in the largest cities in the country and the presence of more women in fertile age are the reasons for higher fertility rates in Sofia-capital, Plovdiv, Varna, Burgas and Stara Zagora. At the same time, most of these areas are around and below the national average of the total fertility rate in 2017 (Fig. 6). A typical example is the Sofia-capital district, the value of which is the lowest for the whole country – 1,3.

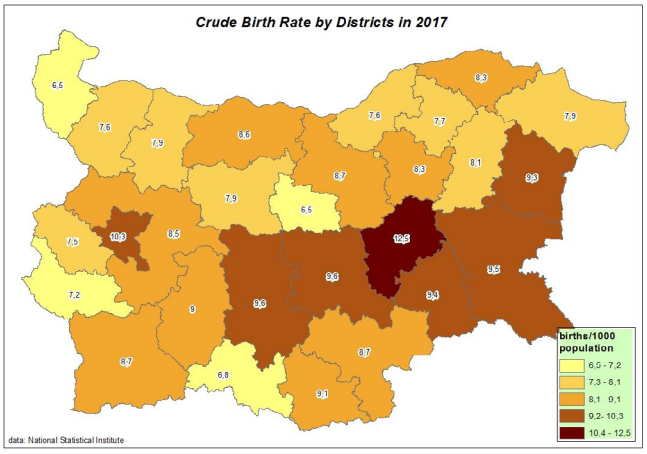


**Figure 3.** Crude birth rate by districts in 2017.

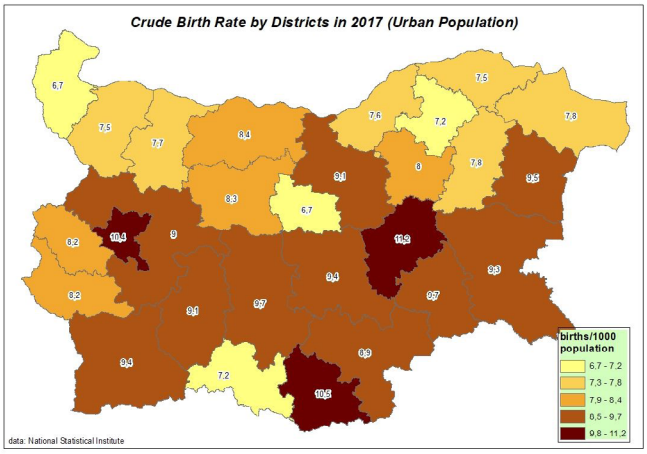


**Figure 4.** Crude birth rate by districts in 2017 (Urban population).

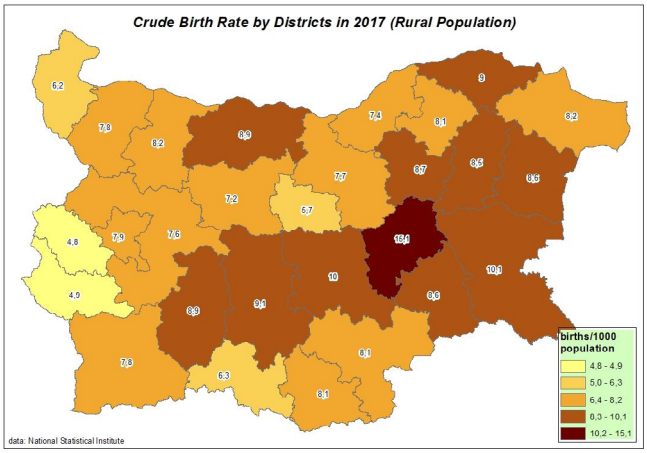


**Figure 5.** Crude birth rate by districts in 2017 (Rural population).

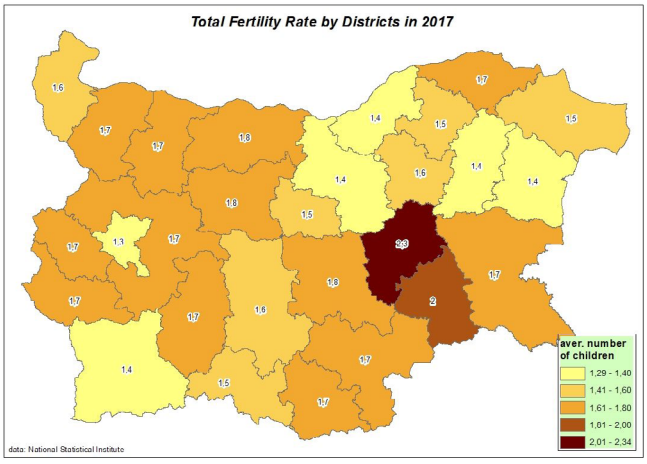


**Figure 6.** Total fertility rate by districts in 2017.

## Conclusion

The most recent demographic statistics in Bulgaria show unfavorable trends related to the natural increase/decrease of the population. Birth rate is decreasing while at the same time increasing the differences in values for the urban and rural population. The decrease in birth rate is mainly due to the continuing decline in the number of fertile women and the constantly low fertility rates.

The demographic data show a deepening of the population's unfavorable processes such as an increase in the number of early births from mothers under 18, an increase in births by women of 40 years of age and over, and increased number of children who have no father's data.

Regional differences related to the birth rate and fertility of women are still preserved. Their existence is determined by the structural characteristics of the population (ethno-religious affiliation, age structure, degree of education, etc.). On a regional level, there is a shift in the highest values of fertility rates from the districts of Blagoevgrad, Smolyan and Kardzhali in direction to the districts of Sliven and Yambol.

The negative trends characterizing the birth rates and fertility rates in Bulgaria over recent decades, reflect some of the most significant changes in the reproductive behavior of the population. The results of the national and regional demographical studies show the need to rethink the policies and approaches to social benefits used so far. The unsatisfactory results require redirection of the efforts mainly to young people seeking to achieve good education and professional realization in Bulgaria.

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