

# Fewer Babies in Bulgaria: Several Possible Explanations



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**D**uring the 20<sup>th</sup> and early 21<sup>st</sup> century, Bulgaria's population exploded rapidly, only to quickly decline at an equally rapid pace. The best illustration of this phenomenon is the fact that the country's peak of growth happened in the times of the Peoples' Republic, when the Bulgarian population more than doubled in the census period between the 1900 and 1985 (a growth from 3.75 to 8.95 million people)<sup>1</sup>. However, it was soon followed by a rapid decline after the fall of the Iron curtain, when the population dropped to 6.52 million according to the last count, conducted at the end of 2021<sup>2</sup>.

If the last two decades can be any indication, the rate of the decline is accelerating – the loss of population was 564,000 people between 2002 and 2011, and 845,000 between 2012 and 2021. While it is at best unwise to assume that projections inevitably become reality, the Eurostat projects<sup>3</sup> that Bulgaria's population will drop further to 5.6 million people in 2050 and 4.7 in 2100, essentially returning to the numbers from the interwar period of the 20<sup>th</sup> century<sup>4</sup>.

This trend might not be worrying in itself, but it is accompanied by changes in age structure, towards a rapid increase in the number of old-age pensioners compared to the working-age population and children. In the past ten years, the decline in the working-age population (aged 15-64) has been even greater than the overall

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decline, by an almost 950,000 people<sup>5</sup>. The Bulgarian population pyramid has essentially flipped since the beginning of the transition in the 1990s – back then the share of children (aged 15 and below) was 21% and the share of pensioners (65 and up) was 14%. Recently, in 2021, the children formed 14% of the population, whereas pensioners – a staggering 24%<sup>6</sup>.

These developments inevitably lead to economic consequences. A lower number of workers mandates increases in labor productivity and high capital investments serve both as an effective brake on the development of certain labor-intensive

<sup>1</sup> See: <https://guides.loc.gov/bulgarian-statistics/censuses>

<sup>2</sup> [https://www.nsi.bg/sites/default/files/files/pressreleases/Census2021\\_population\\_en.pdf](https://www.nsi.bg/sites/default/files/files/pressreleases/Census2021_population_en.pdf)

<sup>3</sup> See: <https://ec.europa.eu/eurostat/statistics-explained/index.php?oldid=497115>

<sup>4</sup> One might argue that after the larger-than-expected decline between the last two censuses will push those projections even further down.

<sup>5</sup> [https://www.nsi.bg/sites/default/files/files/pressreleases/Census2021\\_population\\_en.pdf](https://www.nsi.bg/sites/default/files/files/pressreleases/Census2021_population_en.pdf)

<sup>6</sup> Ibid.



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sectors and a strong disincentive to investment in the most rapidly depopulating regions. The higher number of retirees puts further strain on an already exhausted pensions system, which systematically struggles to maintain a basic standard of living for its recipients and imposes increases in social security payments just to maintain the *status quo*. At the same time, the declining number of children may only exacerbate these issues in the future.

It is all-too easy to look for a single driving force behind the declining and aging population, and the *ad nauseam* repeated formula has been the emigration of many of the young and capable in (at least) two waves – the first, after the fall of the Iron

curtain and the removal of the most brutal restraints to free movement, and, the second, after Bulgaria's accession to the European Union (EU), when the lucrative labor markets of Western Europe became easily accessible. While this migration has certainly played a significant role in this process (which shall be examined in a greater detail later), the usual univariate analysis provides nothing but a flawed and incomplete explanation.

While emigration was going on, internal demographic factors were also worsening rather quickly – birth and fertility rates falling, mean number of children per family declining, which signifies that there are drivers of the decline to be found within the country itself. For this reason, let us focus not on the external factors that drive Bulgaria's population decline, but rather on the internal ones – economic conditions, income, the basic social preconditions for having children, and, most importantly, policies focused on family, youth, and childcare.

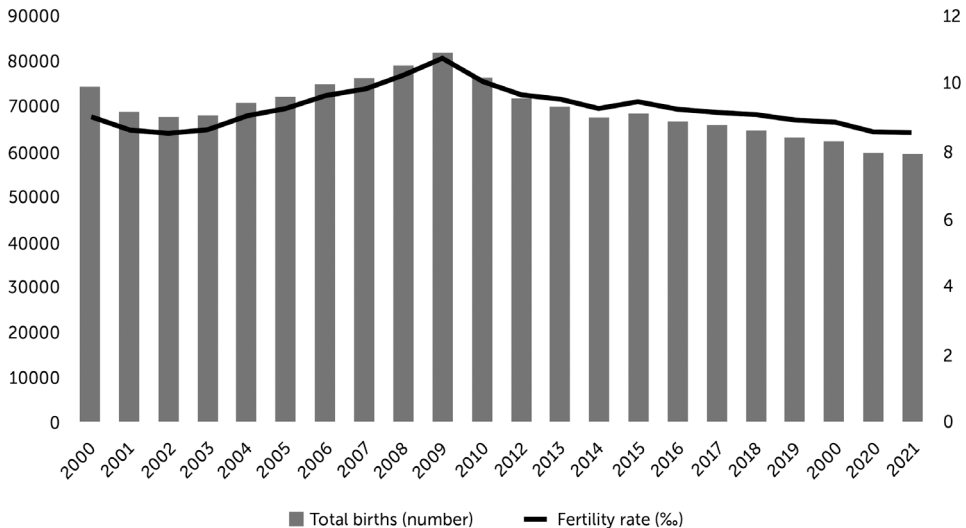
### FEWER BABIES IN BULGARIA

Due to focusing on family growth and family policy, the dynamics and particularities of natural growth and fertility in Bulgaria will first be examined. Since the start of the century, two trends concerning the total number of births can be observed. In the first decade until the start of the global economic crisis in 2009, there was steady growth, from 67 to almost 82 thousand births per year<sup>7</sup>. This was, however, followed by a continuous decline that lasts until today, to just slightly over 59 thousand births in 2021. In relative terms, this means that the fertility rates registered a drop from over 10‰ to 8.5‰<sup>8</sup> [See: Figure 1].

<sup>7</sup> <https://www.nsi.bg/en/content/2956/births-place-residence-statistical-regions-districts-and-sex>

<sup>8</sup> <https://www.nsi.bg/en/content/2967/birth-rates>

Figure 1: Total births and fertility rate in Bulgaria (2000-2021)



Source: NSI

Nationwide trends, however, hide very different dynamics on the regional level. The differences in birth rates between the 28 districts of Bulgaria are significant, as those vary from a meagre 5.8‰ in Gabrovo and Smolyan to 11.9‰ in Sliven and 10‰ in the capital as of 2021. Decreases in the birth rate are ubiquitous, but vary quite a lot between the districts, from -4 per mille points in Kardzhali and -3.1 points in Targovishte in 2021 compared to 2010 to less than 1 point in the better faring regions. In total numbers, there are 10 regions with less than 1,000 newborns in 2021, and only the capital city region has over 10,000. These visible disparities, in turn, mean that analyzing the issue on the subnational level is also necessary, as there may be different drivers.

This declining birth rate, combined with the excess mortality of the COVID-19 pandemic has resulted in a quick deterioration of natural growth rates. While on the national level the natural growth was -6.5‰ in 2019, it became more than twice as bad

in 2021, to a -13.2‰, and over -20‰ in some of the regions of the country. While data are not yet available for the post-peak pandemic 2022, it is rather safe to say that the combination of covid-19 and declining growth rates have led to a significant increase in the medium-term negative demographic developments.

## THE INCOME AND ECONOMIC DEVELOPMENT ARGUMENT

The most basic premise to be examined first is the economic argument – namely that high income and the associated standard of living is the primary determinant of fertility. The standing academic literature presents both arguments – that higher income creates more stability and better family environments, thus allowing a ‘budget’ for more children<sup>9</sup>, and that higher incomes allow families to be more

<sup>9</sup> See, among others, Freedman, D. S., and A. Thornton (1982) ‘Income and Fertility: The Elusive Relationship’, [in]: *Demography*, Vol. 19(1), pp. 65-78; Simon, J. L. (1969) ‘The Effect of Income on Fertility’, [in]: *Population Studies*, Vol. 23(3), pp. 327-341.

selective and better educated, thus leading to lower fertility<sup>10</sup>. While the negative relationship is more prominent in lower-income countries, one might hypothesize that in the case of Bulgaria (which falls in the middle-income country group), higher income should be associated with higher fertility.

While it is beyond the scope of the current analysis to test this relationship on individual-household data, this can be done both on the regional- and municipal levels. This approach omits the impact of the income structure within the units, but it is sufficient to estimate the direction (and, with the above considerations in mind, strength) of the relationship. In order to test this hypothesis, we examine the impact both of the overall economic development (as measured by added value per capita) and income (average employee salaries). While those indicators are far from ideal, their selection is a consequence of the availability of data on the municipal level. The explanatory variables are given in their decimal logarithms in order to eliminate possible nonlinearities and the impact of extreme outliers [See: Figure 2].

With this setup, it is essentially impossible to claim that there is a relationship of any sort between income, local economic conditions, or wages and birthrates. There is an extremely modest effect of higher wages, but in no way can it be claimed that this is the key driver of demographic processes. This is also visible in the dynamics on the national level, as the rapid decreases in birth rates in the late 2010's coincide with the most rapid economic development and

<sup>10</sup> See: Bollen, K. A., Glanville, J.L., and G. Stecklov (2007) "Socio-Economic Status, Permanent Income, and Fertility: A Latent-Variable Approach", [in:] *Population Studies*, Vol. 61(1), pp. 15-34;

Borg M. (1989) "The Income-Fertility Relationship: Effect of the Net Price of a Child", [in:] *Demography*, Vol. 26(2), pp. 301-310.



THE FERTILITY RATES REGISTERED A DROP FROM OVER 10% TO 8.5%

growth in wages and incomes in the post-communist period of the country. This can even be interpreted as an argument in favor of an inverse relationship. In any case, it is more than evident that looking for reasons beyond economic development and living standards is necessary – such in institutions, social conditions, and policy.

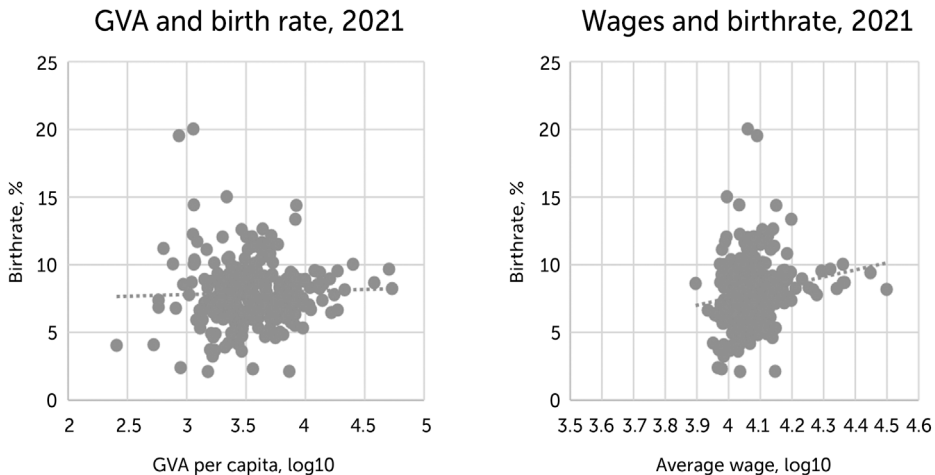
### **MATERNITY AND FINANCIAL SUPPORT – IS MONEY ENOUGH?**

A common argument in Bulgaria, especially among politicians<sup>11</sup>, is that providing extra material resources and paid leave to families is a significant factor in the decision to have children, and, therefore, more upfront spending and longer paid leave for parents will lead to increases in birthrate. This is assumed to be particularly true<sup>12</sup> among the poorer parts of the population and the lower middle class, for whom supporting a child forms a significant additional household expense and, as a result, monetary considerations are of significant importance in the decision-making process.

<sup>11</sup> An analysis of child policy proposals in the latest general election campaign is available here: [https://m.offnews.bg/news/Politika\\_8/Kade-sa-detcata-v-predizbornite-programi-na-polititcite\\_785986.html](https://m.offnews.bg/news/Politika_8/Kade-sa-detcata-v-predizbornite-programi-na-polititcite_785986.html) [in Bulgarian]

<sup>12</sup> Ibid.

Figure 2: Relationship between income, economic development, and birthrates at the municipal level in Bulgaria (2021)



Source: NSI<sup>11</sup>, author's calculation

This being said, Bulgaria already has an incredibly generous maternity scheme. Mothers are allowed a total of 410 days of maternity leave<sup>13</sup>, starting 45 days before the birth due date. After the first six months, during which the care of the mother is considered essential, either parent can assume care until the full period of the leave is finished, which makes the scheme quite flexible (although according to data from the National Insurance Institute<sup>14</sup>, fathers taking over is quite rare); the same is true for grandparents.

While on maternity leave, the parent is provided with 90% of the income they received from employment in the prior two years. Afterwards, the parent is allowed to take further leave until the child is two

<sup>13</sup> See a full description here: <https://ec.europa.eu/social/main.jsp?catId=1103&langId=en&intPageId=5037#:~:text=After%20completion%20of%20the%20410,the%20amount%20is%20BGN%20650>

<sup>14</sup> See here: <https://clinica.bg/7091-Poveche-bashti-s-otpusk-po-maichinstvo>

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THE RAPID DECREASES IN BIRTH RATES IN THE LATE 2010'S COINCIDE WITH THE MOST RAPID ECONOMIC DEVELOPMENT AND GROWTH IN WAGES AND INCOMES IN THE POST-COMMUNIST PERIOD OF THE COUNTRY

years of age, receiving the minimum wage (at present, EUR 390 a month). Parents are also entitled to another eleven months' unpaid leave between the age two and eight years of every child.

The Bulgarian maternity benefit is among the most extensive in the world – among the countries covered in the OECD database<sup>15</sup> on the subject, only Hungary and Finland have longer overall available leave time. Bulgaria has the longest available paid leave time, significantly longer compared to Greece and the United Kingdom<sup>16</sup>. The payment rate is also among the highest, apart from countries which provide benefits equal to the previous income of the parent<sup>17</sup>. This means that the poor demographic performance of the country is not countered by generous child-rearing support.

It is worth pointing out that maternity is only available for working parents, and there is insufficient support for those who desire to have children but do not participate in formal employment or self-employment. While maternity is explicitly aimed as a replacement for work income, a scheme that would be aimed at non-working parents would have very low coverage – employment rates in the groups that typically<sup>18</sup> have children (20 to 44 year olds) are very high, between 75 and 80% of the relevant cohorts. Moreover, in many cases mothers inactive in the labor market are supported by the income of other family members, usually the father.

One might argue (and rightfully so) that childcare does not end at the age of two, and, therefore, lackluster support from the government from that point onwards is what dissuades prospective parents. For that reason, it is worthwhile to simply enumerate other types of governmental financial support provided to children in Bulgaria in some form or another:

- one-off pregnancy benefit – BGN 150
- one-off benefit upon childbirth – BGN 250 for first child, BGN 600 for the second child, BGN 300 for the third child, and BGN 200 for each subsequent child,
- one-off benefit for raising twins – BGN 1200 for each twin,
- one-off benefit for the raising of a child by a mother (adoptive mother) who is a full-time university student – BGN 2880,
- one-off benefits for pupils enrolled in first grade – BGN 300,
- one-off benefits for students enrolled in eighth grade – BGN 300,
- one-off allowance for free railway and bus transport to mothers of multiple children – based on the cost of particular travel,
- one-off benefit upon adoption of a child – BGN 250,
- monthly support for child-rearing – income-based calculation<sup>19</sup>.

On top of these programs, parents are eligible for a discount on income taxes up to EUR 3,000 for up to three children each<sup>20</sup>. Again, this has an impact only on working families, but, as demonstrated, that covers

<sup>15</sup> [https://www.oecd.org/els/soc/PF2\\_1\\_Parental\\_leave\\_systems.pdf](https://www.oecd.org/els/soc/PF2_1_Parental_leave_systems.pdf)

<sup>16</sup> Ibid.

<sup>17</sup> Ibid.

<sup>18</sup> Data here <https://www.nsi.bg/en/content/4009/employed-and-employment-rates-national-level-statistical-regions-districts>

<sup>19</sup> European Commission (2022) *Bulgaria – Other Family Allowances and Benefits*. Available [online]: <https://ec.europa.eu/social/main.jsp?catId=11036&langId=en&intPagelId=5060>

<sup>20</sup> A thorough description of this scheme here: [https://nra.bg/wps/portal/nra/taxes/godishen-danak-varhudohdite/Danuchni\\_oblekhenia\\_zadeca-za-2022](https://nra.bg/wps/portal/nra/taxes/godishen-danak-varhudohdite/Danuchni_oblekhenia_zadeca-za-2022)



THE OVERALL PACKAGE MAKES FOR A SIZABLE SUPPORT SCHEME FOR PARENTS, COVERING BOTH THE PERIOD IN WHICH THEIR CHILDREN ARE DEPENDENT ON THEM AND KEY MOMENTS IN THE LIFE OF A CHILD WHEN EXTRA SPENDING IS INEVITABLE

a significant majority of potential parents. The overall package makes for a sizable support scheme for parents, covering both the period in which their children are dependent on them and key moments in the life of a child when extra spending is inevitable. Given all this spending, and especially the particularly generous maternity leave, it is difficult to argue that Bulgaria is doing little – at least public

budget-wise – to support parents, especially compared to other countries which fare significantly better in terms of fertility and birthrates.

An interesting alley for exploration is the fact that most of the support provided for parents is not means-tested and available to everyone, regardless of income and living conditions. The rationale behind this approach is non-discrimination among families. This, however, means that the government provides equal financial assistance to parents which *may* or *may not* need it in order to successfully take care of children. It can be argued that this approach leaves families that actually need assistance with insufficient aid, while *wasting* public resources on well-off parents.

The literature on means-tested versus universal social support tends to be quite divided on the subject of effectiveness and outcomes of the two approaches, but lately, evidence in favor of the former is gaining traction<sup>21</sup>. Therefore, a reform proposal of this part of the social security system may be a move towards introducing means-tested elements in order to provide more aid to the lower social strata.

#### **THE PROBLEM WITH SERVICES: KINDERGARTENS, SCHOOLS, HEALTHCARE, INFRASTRUCTURE, ENVIRONMENT**

Another way to explain the visible reluctance to have children in Bulgaria is a lack of faith in the social support system necessary to successfully build families. These environmental factors can take many forms – proper access to kindergartens

<sup>21</sup> See, among others, Nelson, K. (2004) "Mechanisms of Poverty Alleviation: Anti-Poverty Effects of Non-Means-Tested and Means-Tested Benefits in Five Welfare States", [in]: *Journal of European Social Policy*, Vol. 14(4), pp. 371-390.



and childcare, good quality and reliable healthcare, schooling, even clean and safe cities. Many of these factors are to an extent measurable, which allows for an attempt to estimate their impact.

The first social institution that parents necessarily have to interact with – a long time before the birth of a child – is healthcare. Quality, responsive, and timely care is a must when it comes to proper child-rearing. A recent analysis by the IME<sup>22</sup> outlines the primary issues with the Bulgarian healthcare system, and many of those can be relevant to prospective families.

First off, as a whole, the country does not invest a whole lot in health – the total amount of healthcare spending hovers slightly over 7% of GDP in most years, compared to about 10%, which is the EU average<sup>23</sup>. This in itself would not be a problem – less money can buy a good product with good optimization, but this seems not to be the case. A peculiarity of the Bulgarian system is that it has a very high out-of-pocket spending – almost 40% of all expenses for care and medicine are covered by patients. This adds significant – and unpredictable – financial costs to having children. As a result, finances are often stated as the most important reason for unmet medical needs.

It is also notable that the bulk of the spending is focused on in-hospital treatment, and little on preventative care, which means that the health system works to treat, and not prevent illness<sup>24</sup>. At the same time, the

<sup>22</sup> Available here: [https://ime.bg/var/images/Report-Patients-29\\_April-2022\\_final-1.pdf](https://ime.bg/var/images/Report-Patients-29_April-2022_final-1.pdf)

<sup>23</sup> For an alternative overview from the OECD, see here: [https://read.oecd-ilibrary.org/social-issues-migration-health/bulgaria-country-health-profile-2021\\_c1a721b0-en#page3](https://read.oecd-ilibrary.org/social-issues-migration-health/bulgaria-country-health-profile-2021_c1a721b0-en#page3)

<sup>24</sup> See: [https://ime.bg/var/images/Report-Patients-29\\_April-2022\\_final-1.pdf](https://ime.bg/var/images/Report-Patients-29_April-2022_final-1.pdf)



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system is ill-provided with medical personnel, especially nursing staff<sup>25</sup>. Overall, the effectiveness of the system is low – Bulgaria's citizens have the shortest life expectancy in the EU (at 75 years and a high rate of preventable mortality). Notably, the country also has high child mortality (over 0.5%).

The availability of childcare can also pose an issue – if parents are convinced that having children means having to put their careers on hold not for two years, but until the children reach school age, this may be much more of a deterrent. It is rather

<sup>25</sup> See: Шаламанов, А. (2022) “Недостиг от над 30 000 медицински сестри, 32% от работещите са над 65 години”, [in]: bntnews.bg. Available [online]: <https://bntnews.bg/news/nedostig-ot-nad-30-000-medicinski-sestri-32-ot-raboteshtite-sa-nad-65-godini-1192638news.html> [in Bulgarian]

difficult to paint a single picture of the country as a whole, however, as regional differences are very large.

On the surface, it seems that there is more supply than demand for childcare – in the country as a whole, there were 112 places in kindergartens per 100 children in the appropriate cohort<sup>26</sup> in 2022, compared to 106 per 100 children five years earlier. This is a consequence of the extremely uneven distribution of kindergartens – in the most extreme cases, the number of available spots exceeds the number of children of kindergarten age more than 2.5 times<sup>27</sup>. At the same time, there is undersupply in some of the best-developed areas in the country, including the capital. It must be noted that over the five-year period availability in Sofia has been improving, from 92 to 98 slots per 100 kids<sup>28</sup>.

Analysis on the sub-city level, however<sup>29</sup>, demonstrates that in large parts of the city, particularly in the southern districts, there are available spaces for only 40% of children – and this share drops below 20% in certain areas. This is a consequence of the increased attractiveness of the newly-developed parts of the city to younger people and couples, combined with poor provision of public services in them – including childcare<sup>30</sup>. Major issues are visible in other large cities, such as Plovdiv (83 spaces per 100 children, and declining) and Varna (89/100)<sup>31</sup>. In the absence of availability of public options, families are forced to turn

to private alternatives, which often cost as much as half the average salary – particularly, in the demand-saturated market in Sofia, which is out of the reach of a significant number of would-be parents.

When it comes to education – a system that every child and parent must interact with, in one form or another – the issue is not one of availability, but rather the quality and outcomes. Just like with healthcare, child education in Bulgaria is deemed underfunded compared to the EU averages<sup>32</sup>, but the real issues lay with its quality and outcomes. While the country's own matriculation exams and standardized testing is by design strictly not comparable over the years<sup>33</sup>, broad trends have shown regression in student achievement in recent years, with very large disparities in results in different geographical locations, particular in terms of 'failed' grades<sup>34</sup>. While high-quality instruction can be found in the leading schools in the largest economic sectors, quality quickly starts declining outside of these.

The same is evident in the PISA rankings of the country<sup>35</sup> – Bulgaria falls far behind the averages, but the distribution of results show very high educational inequalities, with elite students performing well, but the rest falling far behind their peers. Overall,

<sup>26</sup> Data here: <https://www.nsi.bg/en/content/3414/kinde-gartens-pre-primary-education>

<sup>27</sup> Ibid.

<sup>28</sup> Ibid.

<sup>29</sup> See here, in Bulgarian: <https://tinyurl.com/4wzn2ewz>

<sup>30</sup> Ibid.

<sup>31</sup> Data available here: <https://www.nsi.bg/en/con-tent/3414/kinde-gartens-pre-primary-education>

<sup>32</sup> See here: <https://www.unicef.org/bulgaria/me-dia/12616/file/BGR-Sit-An-Public-Finance-and-chil-dren-ENG.pdf>

<sup>33</sup> This is a design choice by the Bulgarian Ministry of Education – matriculation exams are tweaked for difficulty between the different years, particularly in the early years of their implementation. This in turn means that grades are not necessarily comparable between cohorts. Furthermore, in 2022, a new scale with increased barrier to passing the exam was introduced.

<sup>34</sup> See here: <https://ime.bg/bg/articles/nad-edna-etvyrt-ot-obshthinite-v-stranata-imat-sreden-rezultat-slab-2-na-maturata-po-bylgarski-ezik/>

<sup>35</sup> Data here: <https://gpseducation.oecd.org/CountryPr-ofile?primaryCountry=BGR&threshold=10&topic=PI>



PROVIDING GOOD OPPORTUNITIES MAY VERY WELL BE AMONG THE IMPORTANT FACTORS CONSIDERED IN MAKING THE DECISION TO HAVE KIDS

access and coverage are considered to be good, less so for minority groups. This, again, poses questions for would-be parents – should their children be brought up in a country where there is a chance that good education could be found, but only for the most talented, whereas the rest will receive poor, substandard schooling? Providing good opportunities may very well be among the important factors considered in making the decision to have kids.

### THE WAY FORWARD

The drivers of Bulgaria's demographic misfortune pose some very difficult questions. Since – at least to the author – it appears that the most convincing explanation lies in the broad institutional environment surrounding children, their health and education. This means that, in order to achieve a demographic turnaround, wholesale reform in essentially all services and institutions pertaining to children and families is necessary.

As can be seen clearly, it is neither good economic development and incomes that is sufficient, nor is it a matter of providing the most generous social support package and maternity leave. While neither of these appear to be actively harmful, should Bulgarian authorities decide that reversing demographic trends is an important priority, their true focus needs to be on improving the overall social environment – in other words, making the country more *liveable*.

It also must be noted that any measures taken in that direction would likely take years – if not decades – to resolve and have any meaningful impact, much beyond the scope of any present-day politician. This is just the nature of demographic processes: they take a long time to pick up a shift in a visible way. Nonetheless, having more Bulgarian babies, and keeping them from leaving the country, seems to be the most important medium- and long-term goal of social policy, as failure on this front may invalidate any other economic success.



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