

REVIEW ARTICLE

The impact of population aging on Russia's demographic structure

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Abstract

The population structure of Russia has had different characteristics in a historical period from the Soviet Union era to the Russian Federation era. One of the characteristics is that the ageing population is out of proportion; the other is a remarkable internal migration between different areas of Russia. Therefore, it is necessary that the population structure of Russia needs to be researched carefully as a case study.

Keywords: Aging population; demographic structure; migration

Introduction

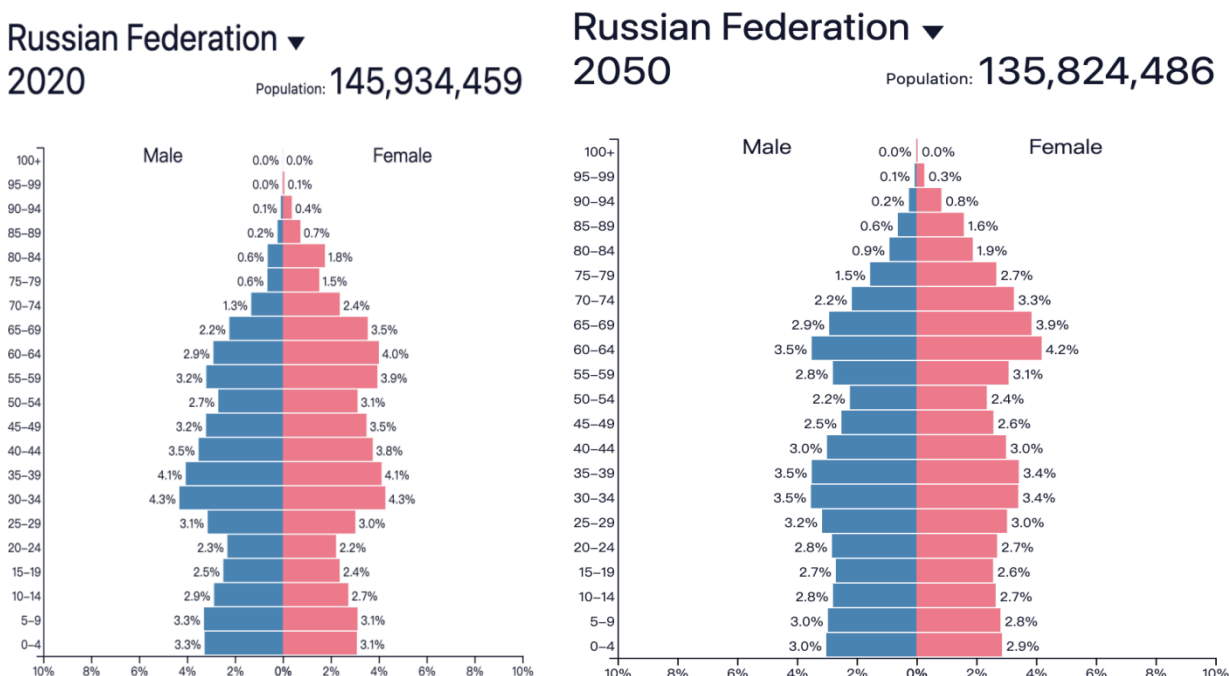
The population structure of Russia has had different characteristics in a historical period from the Soviet Union era to the Russian Federation era (Gerber, 2011). One of the characteristics is the increased aging population; the other is a remarkable internal migration between different areas of Russia. The internal migration in Russia is influenced by the negative economic conditions, aging population, low fertility and government policy. This leads to millions of individuals moving with the country. This migration pattern includes city-to-city migration, rural-to-city migration, and migration to economically developed areas. Therefore, it is necessary that the population structure of Russia needs to be researched carefully as a case study. This paper mainly study the effects of aging population on Russia's demographic structure and the implications of its labor market, economy and social policies. In addition, this research applies historical demographic data to analyze the fertility, mortality rates, age distribution and migration. This includes demographic transition models and policy analysis to study challenges and propose intervention policy. The key findings show that demographic changes which Russia faced challenges of aging population and the reduced fertility. Furthermore, they also reveals the economic effects which the decreased fertility boosted the labor shortages. According to the research, we propose some policies, such as the targets subsidies to families to increase fertility and the migration policies to attract high-skilled workers. In Figure 1, concerning the working-age population of Russia, the majority of individuals are between 30 to 44 years of age, and the percentages are higher than 3.5% for both men and women. The rates then decrease in 45 to 54 years old, and both for each gender are less than 3.5%. In addition, the proportion of the ageing population of Russia, individuals currently aged 60-90, is significantly lower than the proportion of the working-age population. Moreover, the percentage of 0 to 24 dramatically decreases from 3.3% males and 3.1% females to 2.3% males and 2.2% females in 2020. That means the number of younger generations is less than the number of working-

age citizens in the future. When compared to Russia, Germany also experienced a similar trend. According to Kurbatova and Yankovsky (2016), Germany is also facing with a labor shortage caused by demographic change. However, Germany's decline in the age group 0 to 24 years old was mitigated by immigration, while Russia's decline was exacerbated by imperfect immigration policies and historical factors.

Literature Review

The population structure of Russia is significantly different from other European countries, which are facing an ageing population currently. Social economists suggest that it is because of the effects of the Civil War and two World Wars. Although these wars happened in 80 to 100 years ago, it still affects population structure of Russia (Sinitsa, 2019). Russia's aging population began in the early 1990s, when the number of people aged 60 and over began to grow rapidly. According to World Bank (2023), by 2023, the average age of Russian men and women will reach an all-time high of 38.1 and 43 years, respectively. Moreover, the childbearing rate of Russia has decreased since 1989 (Gerber, 2011). The stage, including the decreased fertility rate below the death rate, is called the second demographic transition (van de Kaa, 1987, as cited in Lu & Keller, 2016). Hoem et al. (2009) point out that the massive social change may cause the second demographic transition. The second demographic transition refers to a shift from high fertility and mortality rates in the earlier demographic transition to lower birth rates and later marriage. According to RAND Corporation (2023), nearly 20 percent of Russians are over 60, and that proportion is expected to continue to rise in 2023. This shift also coincides with the second demographic transition, such as delayed birth rates and longer life expectancy (RAND Corporation, 2023).

Figure 1: working-age population



Source: <https://www.populationpyramid.net/russian-federation/2020/>

Source: <https://www.populationpyramid.net/russian-federation/2050/>

This shift has led to declining fertility rates and an aging population becoming more prominent, which poses challenges to Russia's workforce and economic stability. In addition, internal migration is influenced by the political situation in Russia. For example, Russia's war with Ukraine led to emigration of Russian residents, as well as lower birth rates and higher death rates, which worsened the demographic outlook (Centre for Eastern Studies, 2023). Sinitsa (2019) also claims that a low birth rate will lead to a lack of labour in the workplace, and the working-age population will decline. Thus, Russia may face a population crisis that includes both an ageing population and a lack of labour in the future. This phenomenon will act a negative influence on domestic economic growth.

In addition, the aging of the Russian population reduces Russia's ability to innovate and reduce its competitiveness in global industry. For example, the country's ability to recruit military personnel is limited by a decrease in the number of young people available for military service (ENSEMBLE IAS Academy, 2024). Further more, Russia's economic relations with other countries will be affected by these demographic trends. A shrinking domestic workforce in Russia will rely more on immigrants to reduce labor shortages, especially in industries such as healthcare and technology (ENSEMBLE IAS Academy, 2024). Given the country's economic stagnation and political tensions with neighboring regions, attracting foreign workers can be a challenge. In addition, an aging population will increase the financial burden on pensioners, which will strain public resources, leading to social discontent and unrest (ENSEMBLE IAS Academy, 2024). Therefore, in international politics, Russia's demographic problems will exacerbate its internal challenges and lead to political instability. In addition, a shrinking working-age population would limit Russia's position in international trade, military influence, and geopolitical negotiations on a global scale (RAND Corporation, 2023). In short, Russia's aging population and labor shortages will reduce its global competitiveness and reshape its role in international politics and trade. These demographic shifts pose long-term challenges that will drive changes in their foreign policy and economic strategies. Therefore, government policy should be focused on enlarging the local labour market and improve the domestic economy to stabilize the society of Russia.

Methodology

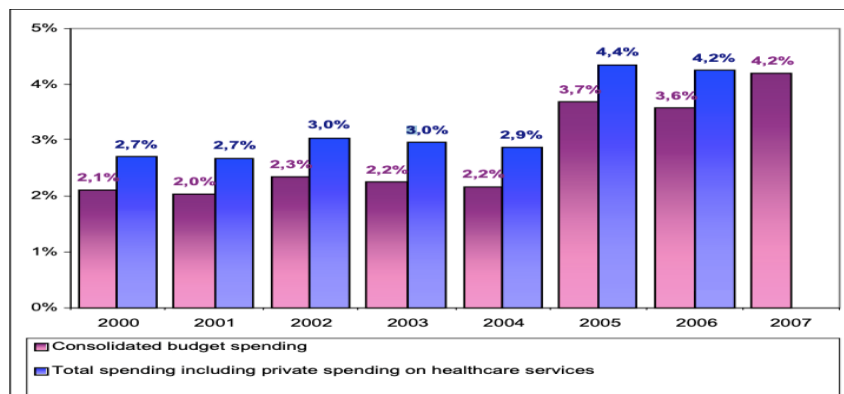
Several significant challenges have been identified to strengthen the workforce. Vishnevsky (2009) points out the main challenges are the low fertility rates and high mortality rates. He suggests that these challenges that policymakers face are amplified by the unbalanced ageing population and shortage of the labour market. In this context, the ageing population and low fertility contribute to a heavy burden on the Russian health care system and pension system (see Figure 2). For example, in Russia, the consolidated budget expenditure on the public health care system took up 3.6% of the total GDP, while the spending on private health care accounted for 4.2% of GDP in 2006 (Vishnevsky, 2009). Russia's policymakers should adapt to economic challenges in increasing public and private health care expenditure. That means the limitation of health care resources leads to the failure of lowering the mortality rate (Vishnevsky, 2009).

In addition, the growing demographic burden of a working-age population is another major challenge facing policymakers. (see Figure 3). For example, in all the projected variables after 2017, the population burden will increase to 2022, by which time more people will be of working age in the first decade of the 21st century. According to Sinitsa (2019), the increased demographic challenges are associated with the aging population and decreased labour force. This will lead to labour shortages and a delay in the retirement age. Furthermore, the increased population burden means that the working-age population faces serious economic challenges, resulting in a significant decline in living standards (Sinitsa, 2019). This will affect the elderly forced to limit consumption, contributing to the shortage of the domestic market. Therefore, policymakers should consider the demographic

and economic challenges in alleviating the shrinking labor market.

Russia's health care policies, past and present, still face challenges. Popovich et al. (2011) explained that the Russian healthcare system continues to evolve, but inefficient allocation of funds and urban-rural disparities remain. They showed that increased resources from a stable economy have enabled targeted health programs to be implemented, but public health spending remains relatively low compared to available funding (Popovich et al., 2011). Compared to Russia, Switzerland and Germany combine private and public healthcare components to strengthen medical services while controlling costs. These systems focus on balancing public health coverage with incentives for private providers to ensure that all populations, including those in rural areas, have access to quality care (WHO team, 2011). Therefore, adopting this model could help solve the challenges facing rural healthcare in Russia and improve efficiency.

Figure 2: Spending on health care in Russia as a share of GDP



Source: Rosstat (2007)

Figure 3: The demographic burden of the working-age population in Russia, 1990-2051

Year	Burden	Year	Burden	Year	Burden
1990	759	1995	760	2009	598
1991	764	2005	596	2010	613
1992	768	2006	589	2015	712
1993	771	2007	586	2016	740
1994	767	2008	591	2017	764
Projection variant					
	Worst-case	Low	Likely	High	Overoptimistic
2018	788	788	788	788	789
2019	808	809	809	809	810
2023	860	864	868	871	874
2024	865	869	875	879	882
2025	865	869	877	883	887
2026	865	871	881	888	893
2027	863	870	882	892	896
2028	858	866	880	892	897
2029	850	859	875	889	895
2030	842	852	871	886	894
2031	836	847	869	887	895
2032	828	841	866	885	895
2033	822	837	864	885	897
2034	818	833	864	887	900
2035	815	832	865	889	904
2036	817	835	871	897	913
2037	818	838	877	903	921
2038	822	843	885	912	931
2039	830	852	897	924	945
2049	961	997	1,079	1,092	1,133
2050	965	1,001	1,088	1,100	1,142
2051	967	1,003	1,094	1,106	1,149

Source: Rosstat and author's calculations

Several strategies have been proposed to address economic challenges caused by the ageing population and shortage of workforce in Russia. In terms of the economic challenge, one strategy to solve these issues is to design a flexible and comprehensive employment pattern and establish relevant infrastructure to support it (Sinitsa, 2019). More elderly participation in work with delayed pension and the encouraged demographic policy for improving fertility rate can alleviate the labour market shortage (Sinitsa, 2019). For example, according to Vishnevsky (2009), the Russian government subsidizes families with more children. This subsidy can be used to purchase residential property, improve children's education, and support mothers' retirement pension. In addition, in 2018, Russia passed a pension reform that raised the retirement age from 60 to 65 for men and from 55 to 60 for women (World Bank, 2019). Full implementation is planned for 2028 and 2034 respectively (World Bank, 2019). Furthermore, policies to promote longer retirement include workplace adaptation for aging groups, lifelong learning programs, and incentives for employers to hire aging groups (World Bank, 2019).

The second strategy is to develop a comprehensive and effective migration policy (Sinitsa, 2019). This is because economic opportunities and other forced factors can attract talents or skilled migrants to enlarge the Russian labour market. Economic migration is accepted and integrated into the Russian labor market. This measure can reduce the social burden due to demographic changes (Sinitsa, 2019). According to (Centre for Eastern Studies, 2023; RAND Corporation, 2023), migration, particularly from Central Asia, has been a key strategy to reduce labor shortages in industries such as construction and agriculture. However, migration can also lead to unstable employment, limited legal protection and barriers to the integration of migrants. Immigration policies could provide a more stable workforce, but current measures are often inadequate due to inconsistent implementation and bureaucratic obstacles (Centre for Eastern Studies, 2023; RAND Corporation, 2023). Moreover, strong anti-immigrant sentiment in Russian society is a long-standing problem. According to Human Rights Watch (2024), there is a high level of public dissatisfaction with immigration, due to the competition for jobs and cultural differences. As a result, xenophobic attitudes in Russian society have also led to discriminatory behavior in society. For example, arbitrary detention and fines of migrants, even if their documents are legal, hinder the effective integration of migrants into Russian society and the labor market (Human Rights Watch, 2024). Therefore, arbitrary detention and fines of migrants not only violate their human rights, but also undermine Russia's international standing on issues of equality and justice (Human Rights Watch, 2024).

In the short term, the policy can ease pressure on Russia's pension system. However, extending the working life of older people could also increase government spending on pension spending, especially if it leads to higher administrative costs of managing pensions (Sinitsa, 2019). In addition, older workers are less productive than younger workers, which could limit overall economic growth. Furthermore, the family subsidies for fertility can directly raise household incomes and encourage higher fertility rates. However, these measures could strain the budget in the short term and could lead to higher government deficits if not accompanied by tax increases or other compensatory fiscal measures.

In the long term, encouraging immigration and integrating skilled foreign workers into the labor market can provide a long-term solution to labor shortages. By attracting young and skilled workers, Russia has the potential to slow the decline in its working-age population. The influx of workers could provide a tax base to support Russia's aging population, ensuring that the social welfare system remains sustainable over time (Sinitsa, 2019). However, long-term integration can bring social challenges, such as potential tensions between migrants and native populations, which requires investment in social programs to ensure smooth integration and prevent social fragmentation.

Results and Discussion

The demographic transition model of the Russian Federation is inclined to the mid-second stage with a gradual increase in birth rates, based upon the interaction of various mechanisms (Van de Kaa, 1987, as cited in Lu & Keller, 2016). However, demographic issues should be concerned from multiple parts. The Russian government has strongly focused on introducing external migrants to substitute the gap of the declined natural birth. However, the fundamental human rights of numerous immigrants are unlikely to be guaranteed due to a lack of political regulations (Kubal, 2019). Simultaneously, Wang et al. (2019) assert cultural conflicts and increased competitiveness in labour markets will further exacerbate the conditions of vulnerable migrants with exclusion and discrimination. On the other hand, Russia is the second-largest receiving country, followed by the U.S (Kurbatova & Yankovsky, 2016). Russia has a long internal migrant history. Semenov (2019) points out that the majority of the populations in Siberia are migrants, which means migration is not a new strategy but has acted for many years. However, evidence demonstrates 11 million illegal and undocumented immigrants in Russia by 2020, compared with 10.7 million in the U.S. (Agnieszka & Alejandro, 2020). That means the Russian government would face more social disturbances attributed to untraceable illegal transactions among those unregistered immigrants (Wang et al., 2019). According to Sinitsa (2019), additional challenges would continually exacerbate the demographic burdens. Illegal immigration in Russia poses a multifaceted challenge, influencing both domestic stability and its relations with neighboring countries. In addition, millions of illegal immigrants are estimated to make up a significant part of the Russian workforce, but they work in unstable conditions, often exploited by employers and marginalized in local communities (Carnegie Endowment for International Peace, 2023). This puts pressure on public services and increases anti-immigrant sentiment and the racial discrimination and social unrest. However, this migration policy has also increased tensions with neighboring countries, especially those in Central Asia and Eastern Europe, whose migration often creates economic and social challenges for sending countries (Radio Free Europe, 2020).

In terms of employment perspective, Sinitsa (2019) asserts numerous migrants will burden the local labour market, leading to a high proportion of nonworking generations. Statistics project the unemployed people of all ages will rise to 118% by 2025 and continually increase by 123% in 2035 (Sinitsa, 2019). Insufficient and asymmetric employment will continually exacerbate Russian social burdens. In this regard, evidence estimates that roughly 60,000 citizens prefer to emigrate due to the competitive labour market. The Russian government had reduced the immigration quotas to alleviate this issue while there is no efficiency (Mihaylova, 2017).

Compared to Russia, Germany's 2020 Skilled Migration Act simplifies visa procedures for non-EU workers with qualifications in the healthcare sector (Federal Ministry of the Interior & Building and Community, 2023). By combining immigration policy with the needs of the labor market, Germany has effectively addressed the labor shortage caused by an aging population. In addition, Germany has invested heavily in programs such as language training and professional certification (Deutsche Welle, 2019). These measures ensure that migrants are able to integrate into society and contribute economically.

Conclusion

As several challenges mentioned above regarding economic burdens and migration selection, policymakers should consider such determinants based on current demographic patterns. Motivating the birth fertility rate continually is the top priority of the Russian government. Nina et al. (2020) perceive that the government should encourage all females of reproductive age to breed children, particularly the young generations. For the government, then, the strategy of state aid should be a targeted subsidy rather than a blanket subsidy, which

effectively provides more economical and political support to families having more than two children. For example, providing accessible and affordable childcare facilities can ease the burden on working parents and encourage them to have more children. In Sweden, this country has successfully implemented a system of subsidized child care, which has led to higher fertility rates (Andersson et al., 2011). Therefore, Russia could invest in a nationwide network of affordable child care centers to support working families.

When it comes to migration, Kurbatova and Yankovsky (2016) claim medical examination should be the necessary migration procedure when immigrants enter. They also point out that professional medical specialists would be in demand to search the genetic ancestry of migrants. Thus, medical tests will track the origins of immigrants to avoid hereditary diseases. As regards immigration management, Khoreva et al. (2018) indicate the migration procedure need to strengthen coordination between the central and local authorities associated with migration management. As for temporary migrants or vulnerable groups, it is feasible for the regional migration department to permit registrations. Immigration registration thus should tend to be systematized and categorized. Compared to Russia, Germany combines immigration with a "dual education" system, where migrants can take part in vocational training programs while working (OECD, 2022). This model matches migrants' skills with local industrial needs, helping them integrate into the workforce. Similarly, Russia can offer vocational training programs for migrants, allowing them to obtain certificates and work experience.

In the aspect of employment, Mihaylova (2017) illustrates that Russia's new Concept of the State Migration Policy in 2015 (CSMP) should focus more on targeted migrants strictly and selectively. However, Khoreva et al. (2018) claim enhancing national economic diversity and international cooperation is a feasible approach. For example, the China-Russia Bilateral Trade has stimulated e-commerce development, which provides females and the elderly online service works. Therefore, the development of economic strength will be a necessary consideration to mitigate population pressure and face the projected decline population of working-age generations by 2050.

In a conclusion, in terms of long-term benefits, fertility incentive policies can boost workforce growth. Encouraging a higher birth rate could help maintain a stable Labour market in the long run and reduce pressure on pension systems (Vishnevsky, 2009). In addition, increasing the labor force through immigration helps to increase the funding of social welfare and ensure the long-term stability of pension and health care systems in Russia. For example, Canada has attracted and integrated skilled migrants, which demonstrated the fiscal benefits of a growing working-age population (CIC News, 2023).

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