The Influence of Coronavirus Infection on Family Demography

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Abstract
The article analyzes the influence of coronavirus infection on family demography in Uzbekistan. It also focuses on other demographic indicators, such as comparing population growth in CIS countries between 1991 and 2011, as well as the interregional distribution of population in the country and the structure of working-age population. It allows to observe the variations of demographics in the country since the independence to date. It also allows identifying the accumulated demographic issues, namely the overpopulated regions with the high level of unemployment, the imbalance between supply and demand in labor market, the increase of working-age population, and the rise of elderly employable population which creates pressure on the pension system. Therefore, a high priority task for today is the elimination of these problems as the coronavirus pandemic may worsen the situation in the country because the well-being of family demography and the well-being of country are closely connected.

Keywords
coronavirus infection, family, Uzbekistan, population growth, birth rate, demographic issues

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The Influence of Coronavirus Infection on Family Demography

Population is seen as a productive force and main consumer in the development of society. In this regard, the history of mankind requires study of problems related to population. The science that studies the problems associated with population displacement is called demography. “Demography” comes from the word “demos” – people, “graphy” – writing, which means study of populations.

Demography is not a new science; it has been studied for more than three hundred years. Population growth depends on natural, economic, social conditions, national customs, and traditions. Developing countries account for a share of the world’s population growth. Uzbekistan is also one of the fastest growing countries. Population growth causes social and economic problems throughout the country. However, through the authorities’ efforts, in Uzbekistan all conditions are created for a peaceful and prosperous life of people. The country’s demographic policy is aimed at creating a strong family, supporting maternal and child health, and effective use of labor resources. For Uzbekistan, priority is the human factor – criterion that determines the main direction and effectiveness of all reforms. This means pursuing a strong social policy, considering demographic and other national characteristics. In Uzbekistan, the family is seen as a part of society, as a small independent “country”. It is in the family that the processes of generational change take place: birth, death, marriage, divorce. After all, family is the first stage of the mental and physical formation of population. In this regard, the inviolability of family is enshrined in Articles 63, 64, 65 of the Constitution of the Republic of Uzbekistan. The strength of family is not only the basis for population growth, but also the basis for the formation of mentally and physically mature workforce.

The level of economic, social, and political development of country influences demographic processes. Researchers studying demographic, economic, social, and political sciences should know about this. The subject of demographic statistics should be known to both businessmen and entrepreneur. Because a businessman or entrepreneur must plan for whom and in what quantity to produce their product. To study this need, it is necessary to know average age of population; average size of families and average number of children in a family; national customs and other relevant data on population. Studying demographics in the United States of America is the starting point for entrepreneurs. Therefore, the subject of demographic statistics should be known not only to students, but also to businessmen and entrepreneurs – or everyone who participates in the development of society. The purpose of studying science is to analyze
information about demographic processes, develop measures to solve problems, assess demographic situation in a society, which are fundamentals of determining socio-economic prospects.

**Imbalance between Population Growth and Labor Market**

It is known that one of the factors influencing a sustainable and effective development of the country is a stable demographic situation. Even though natural population growth in Uzbekistan has slowed down in recent years. It remains the leading country in Central Asia and CIS in terms of population growth. According to data, over the 20 years (1991-2011), population of Uzbekistan increased by 8.9 million people, while in neighbor countries: Tajikistan by 2.2 million, Azerbaijan by 1.9 million, Turkmenistan by 1.2 million, Kyrgyzstan by 1.0 million, and Kazakhstan by 0.8 million. On the contrary, in some CIS countries there was a decrease in population: Armenia by -0.3 million, Belarus -0.7 million, Moldova -0.8 million, Russia -5.4 million, and Ukraine -6.0 million (Figure 1).

![Figure 1. Population growth in the CIS countries, 1991-2011 (Voloshin & Yakushkin 2012)](image)

Significant changes are also observed in the interregional distribution of population in Uzbekistan. According to data, the largest share of population currently lives in the Fergana Valley (Andijan, Fergana, Namangan) – 28.6% and the Zarafshan Valley (Samarkand, Navoi, Bukhara) – 19.8%. Kashkadarya and Surkhandarya oases accounted for 17.3%, Tashkent
region and Tashkent city – 16.5%, the Republic of Karakalpakstan and Khorezm region – 11.2%, Jizzakh and Syrdarya regions – 6.6% (Figure 2). In this situation, it is important to develop targeted government programs to increase employment rate and efficient use of available labor resources. These programs require a decent redistribution of available labor resources for the prospect of innovative development of the regions. Also, the program includes the construction of affordable housing for young families in internal migration, and the construction of new social infrastructure in the regions. These programs have been being implemented in the country since 2016.

![Figure 2. Interregional distribution of the population in Uzbekistan (Stat.uz, 2020).](image)

Change in quality of country’s population is related to a change in age structure of population. The current age structure of population of Uzbekistan is young, despite the decline in birth rate that began in the 1990s. According to State Committee of the Republic of Uzbekistan as of 1st January of 2017, share of young people under 30 years old was 56.5% – of which share of youngsters under 16 years old is 30.1% and share of young people 16-29 years old – 26.4% (Figure 3). Also, analysis of data show that in recent years the absolute number of people aged 0-15 years has decreased (in 2010, the share of youngsters under 16 years old was 31.2%).
From 2010 to 2016, share of employable population in the country decreased from 31.3% in 2010 to 30.1% in 2016\(^5\) (Figure 4). In the last 20 years birth rate was dropped, namely birth rate in the country decreased from 34.5% in 1991 to 23.2% in 2010\(^5\) (Figure 5). Currently, this indicator tends to decrease. In general, based on the experience of developed countries, the size of working-age population will continue to decline by 2050\(^11\), while the older generation will grow from the current 10-12% to 18-22\(^%\)\(^12\).
Impact of Coronavirus Pandemic on Family Demography

Today the world is witnessing unprecedented events. Apparently, due to the coronavirus (COVID-19) epidemic, everyday life appears to have come to a standstill because of the global crisis. The pandemic has paralyzed activities in many areas, the virus continues spreading around the world, causing thousands of deaths.

Given the abstractive and unpredictable world situation, the Uzbek government had to take new precautions to protect its citizens. A decision was made by the Republican Special Commission on the timely identification of patients or persons with suspected disease and prevention of the disease spread in the country. The decision imposed the number of restrictions and certain measures were taken.

To protect the healthcare of Uzbekistan citizens, especially those over 65 and with chronic diseases, were advised not to leave their homes and suggested to wear personal protective masks while going outside. In all trade and farmers markets, measures were taken to prevent population from being in a close proximity in order to stop the disease spread. As a result of quarantine measures, shopping and entertainment centers were closed. Kindergartens, schools, and universities have been closed in accordance with the recommendations of medical professionals. In order to prevent a new wave of disease, the Presidential Decree of March 19, 2020 “On Priority Measures to Mitigate the Negative Impact of Coronavirus Pandemic and the
Global Crisis on the Sectors of Economy” identified the immediate, urgent and critical tasks to mitigate the negative consequences of impending crisis on a global scale\textsuperscript{9}.

The spread of coronavirus pandemic, which is expected to lead to a reduction in the source of population’s income, could negatively affect the demographic process and affect the birth rate. The global economy could contract by 4.4\% in 2020\textsuperscript{10}, this could provoke a chain reaction that will lead to depression in both developed and developing countries. However, Uzbekistan is taking effective measures to reduce the impact of pandemic. The goal is to prevent a drop in income and living standards of population.

It should be noted that, despite the existing difficulties associated with the pandemic and quarantine, Uzbek people did not fall into depression. Not a single system working in Uzbekistan has stopped. Activities related to mental work, learning are carried out remotely and online.

\textbf{Accumulated Demographic Issues and Their Solutions}

At the same time, the goal was set to effectively continue working of agriculture and construction industries; other priority sectors of economy; and business entities in the country. Today’s wasted time and opportunities cannot be recovered tomorrow. In addition to feeding 34 million people, the country is faced with the challenge of exporting domestic products. At the same time, the spread of coronavirus in other developed countries has a strong impact on the demographic situation, but the virus has not spread widely in Uzbekistan due to precautions since the outbreak. The mortality rate has not increased. Therefore, the coronavirus might not have a strong impact on the demographic situation in the country.

It should be noted that in 2007-2016, the working-age population in Uzbekistan increased by 20.7\%, while the number of employable elderly people increased by 55.0\% \textsuperscript{5}. The results of analysis show that the older working-age population grew faster than the working-age population. This can be explained by the fact that population born during the period of “demographic replenishment” after the World War II is now included in the group of elderly people, whereas the average age of population is growing.

World demographers’ forecasts show that the aging process is accelerating. According to UN experts, by 2050 the aging rate in the world is expected to be 16\% in comparison to 9\% in 2019\textsuperscript{13}. The aging process will negatively affect the development of national economy, and it is expected that this process will lead to the following socio-economic consequences: (1) an
increase in share of elderly people among population will reduce the economic activity of citizens and (2) older person might be less active and less productive in their labor participation.

Last 30 years in Uzbekistan, the number of demographic indicators of population – birth and mortality rates – have seen a change. In the past period, we saw both growth and decline of these indicators.

If we first analyze birth and mortality rates, we can observe a certain trend from the first year of independence to present. While total number of births from 1991 to 2003 declined at almost the same rate, from 2004-2010 it increased significantly.6

It is not hard to understand that there have been changes in size of families. However, for a more complete analysis of changes, it is advisable to focus on other demographic indicators as well. These are the cumulative birth, marriage and divorce rates, maternal and infant mortality etc. Aggregate birth rate is an average number of children born by women. This ratio does not consider the mortality rate in this age group and change in the age structure. If the cumulative birth rate is above 4.0 or 4 children per woman, the birth rate is high, and if the total birth rate is less than 2.15, the birth rate is low. During the study years, the total birth in Uzbekistan decreased along with the birth rate. Thus, there were more than 4 children per woman in 1990s, and now it is less than 2.5.

After 2016, special attention is paid to the demographic situation in the country. In particular, the concept of integrated socio-economic development of the Republic of Uzbekistan until 2030 also describes demographic processes and prospects for the development of labor market.7 In the future, the high birth rate, which began in 2009-2010 and continues to this day, will be reflected, albeit less quickly, in 2020-2030. In the future, the total birth rate per 1000 people will decrease from 21.7 to 17.1 births.

As a result, the average annual growth rate of the resident population in 2018 is projected at 32.6 million, and the average annual growth rate of 1.3%. By 2030, population will reach 38.6 million. At the same time, due to the intensification of urbanization, it is expected that the share of urban population in the country by 2030 will increase from 50.8% to 60.0%. In the forecast period, compared to 2018, population under the age of 16 is expected to increase by 7.5% or 743.4 thousand people. The population of working-age will increase by 14.4% or 2,841 thousand people, and population of older working-age will increase 1.6 times or 2,050.3 thousand people.
Migration rates are expected to change over the forecast period. If in 2017 the overall level of migration was -0.6%, then by 2030 it is expected to be -0.5%. It is expected that the labor force migration to foreign countries will decrease in comparison with labor resources. However, there may be the number of risks associated with the gradual aging of population in the forecast period. By 2030, the proportion of people aged 65 and over will reach 8%, with a maximum value of no more than 7%. This trend, associated with processes in the age structure of population, is putting an increasing pressure on the pension system. This requires preventive measures aimed at developing an appropriate infrastructure for the elderly.

Supporting the population’s plans – creating a family with an average of 2-3 children, introducing institutions of family planning and reducing divorce rates among young families – are important tasks in the development of demography for the forecast period until 2030.

The decision to conduct a census in 2022 will solve the number of pressing issues. The results of census make it possible to conduct a deeper analysis of formation of population, as well as to draw up a comprehensive and realistic forecast of demographic development in the country.

According to the forecast, because of population growth, the average annual labor force will increase by 1.15 times by 2030 compared to 2018, reaching 21.8 million people. The average annual per capita growth will be 1.2%, the share of labor resources in the total population by 2030 will be 56.4%. At the same time, the number of people employed in the economy will reach 14.6 million by 2030. The average annual increase in the employed population is 2.1%. However, there are the number of problems and risks that negatively affect the stability of labor market. In some parts of the country there is a shortage of specialists, especially doctors and teachers. The imbalance between supply and demand in the labor market often leads to the fact that graduates of educational institutions do not find work in their specialty. The Republic of Karakalpakstan, Surkhandarya, Samarkand, Fergana and Jizzakh regions have a high level of unemployment, which requires a creation of additional jobs. The country maintains a high level of informal employment (about 40%), which negatively affects the revenues of state budget. Therefore, important public policy measures have been developed to ensure the stability and sustainability of labor market until 2030.

**Conclusion**

Firstly, it is required to revise the Labor Code in line with the requirements of market economy to encourage employers to hire more labor. Secondly, it is suggested to develop and implement investment in development programs. Also, it is advised to create clusters, free economic and
small industrial zones, parks of innovative technologies and accelerate the creation of new jobs through continuing practice. Thirdly, it is highly recommended the partial redistribution of the labor force, freed from inefficient production, to new enterprises using new technologies and characterized by high productivity and competitiveness. Fourthly, mainly in those regions where the situation on the labor market is tense, it is planned to locate new enterprises for a specific purpose. A creation of conditions for employment is mandatory to create new jobs and support small business and entrepreneurship, promoting employment in rural areas. It is also required to implement several measures to increase regional labor mobility, increase competitiveness of a labor force, improve career guidance and psychological support for population through the development of system of continuous vocational training. These solutions will serve to improve the demographic situation in the country.

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