

**STATISTICAL STUDY OF THE POPULATION OF UZBEKISTAN BY AGE AND
GENDER INDICATORS**

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Abstract: This article provides a statistical analysis of the regional and age sex ratio differentiation of the population of the Republic of Uzbekistan. The gender ratio is an integral part of demographic processes and has a direct impact not only on vital signs of the population, but also on the balance of the marriage market, the formation and distribution of labor resources, as well as on the sustainability of socio-economic development processes. At the same time, the differentiation of the sex ratio in the territory and age segments serves as an important scientific basis for assessing the demographic stability of the population, urbanization processes, migration flows, and gender balance in the population.

Keywords: sex composition of the population, sex ratio, age-sex pyramid, regional differentiation, statistical analysis.

ENTRANCE

Demographic processes in the Republic of Uzbekistan play an important role in the development of society. Because demographics such as birth, death, marriage, divorce and migration are the main factors determining the natural displacement and territorial location of the population. Over the years of independence, there has been a steady trend in population growth in the country, and a high proportion of young people in the demographic structure is observed. This has a direct impact on labour potential, social infrastructure and economic policy. Systematic study and analysis of demographic processes has not only statistical significance, but also serves as the necessary scientific basis for the formation of state policy, planning of state programs and the implementation of the national development strategy. Therefore, the study of the main aspects of the demographic development of the population of Uzbekistan is one of the pressing issues of our time. Issues of assessing global changes in the population structure, developing measures to improve population health, improve the status of women and children and provide assistance to families, maintaining current population records, forming a primary demographic database and carefully preparing for the population census "dated March 16, 2020 No. ZRU-611 [1]. This Law defines as one of the main tasks the expansion of the database for assessing the demographic situation in the country and the census.

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TOPICAL LITERATURE ANALYSIS

In the 21st century, an in-depth study of demographic processes, especially the sexual culture of the population, plays an important role in strategies of socio-economic development. Territorial and age differences are associated not only with natural indicators of behavior, but also with the labor market, the formation of the marriage structure and ensuring social equality. Therefore, in recent years, special attention in the scientific literature has been paid to the analysis of the sex composition of the population by statistical methods and its explanation by macro and micro-level factors. According to A.D. Abdurakhmanov [2], "the sex composition of the population is expressed in the ratio of the proportion of men and women and is formed in direct connection with demographic processes." The main factors determining the gender ratio are biological differences in childbirth, differences in mortality rates between men and women, and migration flows. Also, this composition is influenced by the territorial location of productive forces, social position and historical processes.

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M. Borieva, Z. Tozhieva and S. Zakirov [3] in their scientific studies believed that the age composition of the population depends on its natural growth. In cases where the birth rate was high, the proportion of children was high, or, conversely, in cases where the birth rate was low and the average life expectancy of the population was relatively high.

According to KH Abdurakhmanov and KH Abduramanov [4], demographic phenomena always occur at one age or another. In this case, the fluctuations in their execution will change with age or, in other words, will become his responsibility. Therefore, in demography, age is considered as the most important description of any demographic phenomenon. In this regard, we are talking about a young age (age of death), a young age known as marriage and childbirth, etc.

In particular, in their scientific research of V. Lutz, Mark S. and A. Leo [5,6,7] the theoretical concepts of the age and sex composition of the population. Their studies, in particular, widely highlight age differences arising from the role of the demographic dividend in socio-economic development, migration processes and territorial factors, as well as methods for predicting the age and gender structure of the population, as well as the importance of a sustainable population in demographic policy and planning were deeply analyzed.

In this context, Becker [8] explains that the contribution of the younger generation to the economy depends on the level of his knowledge and qualifications. In their studies [9], Bloom and Cannes proved that changes in the age structure of the population directly affect the level of investment, savings and consumption.

RESEARCH METHODOLOGY

This article widely covers the scientific and practical significance of the analysis of territorial and age differences in the gender ratio of the population of Uzbekistan. Based on world experience, Uzbekistan, like all other countries, is experiencing gradual changes in the demographic structure of the population. It should be noted that in some regions, due to the high birth rate, the proportion of children and adolescents is increasing, and in other regions, as a result of migration processes, the proportion of men of working age is increasing.

Another aspect of the territorial differences is that if in urban centers with a more economically active population there is a predominance of the working class, then in remote and rural areas there is a high demographic load, significantly exceeding the proportion of children and the elderly. This creates certain imbalances in the distribution of labor resources, social infrastructure and the service system.

ANALYSIS AND RESULTS

Regional analysis of the age and gender structure of the population is inextricably linked with the norms adopted in the field of labor relations and employment. Because discrimination of demographic processes in the context of regions forms the needs of the labor market - a high proportion of young people or an imbalance in the ratio of women and men. For example, the creation of new jobs and the reduction of informal employment in regions with a large number of able-bodied people are becoming relevant.

Regional study of the age and gender composition of the population is one of the main indicators for analyzing the impact of demographic processes on economic development. Since the age structure of the population determines indicators of production efficiency, consumption and accumulation. For example, although in regions with a high proportion of young people, a demographic dividend can be used for economic growth, this process creates an additional burden on the education, health and employment system.

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In the context of 2015 and 2025, significant changes are observed in the age and gender structure of the population (Table 1). The results of our study show that the population aged 0 to 15 years has increased significantly among both women and men. This indicates a high birth rate and an increase in the share of the younger generation in the regions. According to the results of the analysis, there is a downward trend in the population among adolescents and young people (16-

24 years). In particular, the number of women aged 18-19 years decreased by 96.2 thousand people (-15.6%), a similar decrease was noted in men (-14.9%). Also, among the population aged 20-24, the number of women decreased by 22%, men - by 20.8%. This negative trend is explained by the relative decline in fertility in the 2000s and indicates that a certain "gap" in the age structure is being formed as a result of the influence of the demographic wave.

In the structure of the working-age population (25-39 years old), various demographic dynamics are observed. So, in the age group of 25-29 years, the number of women decreased by 7.4%, men - by 5%. However, there is a significant increase in the age categories of 30-34 and 35-39 years, which is 25-40% in women and 28-43% in men.

A noticeable increase is also observed in the middle-aged group (40-59 years old). Thus, the number of women aged 40-49 years increased by 473.3 thousand people, men - by 519 thousand people. This process indicates the expansion of labor resources due to a relatively mature generation, the proportion of categories with high production potential in the demographic structure is increasing.

The greatest growth is observed in the elderly (60 years and older). In particular, at the age of 60-64, the number of women increased by 323.1 thousand people (175.4%), men - by 282.7 thousand people (173.4%).

Table 1

Differentiated analysis of the population of the Republic of Uzbekistan by age and gender indicators ¹

Age	2015		2025		2025 compared to 2015 growth pace			
	female	male	female	male	(+,-) in female	% in female	(+,-) in male	% in male
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>
0-2 years old	950993	102630	133994	143612	388954	140.9	409818	139.9
3-5 years old	916025	980588	120931	129859	293285	132.0	318009	132.4
6-7 years old	603501	638159	681931	745917	78430	113.0	107758	116.9
8-15 years old	202851	213735	257157	276571	543063	126.8	628356	129.4
16-17 years old	547149	573318	604365	637796	57216	110.5	64478	111.2
18-19 years old	615215	644294	519024	548478	-96191	84.4	-95816	85.1
20-24 years old	158964	164770	124038	130556	-349256	78.0	-342135	79.2
25-29 years old	151694	154865	140490	147063	-112040	92.6	-78025	95.0
30-34 years old	125547	126405	157001	162378	314542	125.1	359733	128.5
35-39 years old	106417	106206	149561	151965	431436	140.5	457585	143.1
40-49 years old	180186	174009	227521	225912	473343	126.3	519033	129.8

¹ National statistics committee information based on author by structured

	9	5	2	8				
50-59 years old	145271	135746	173378	163502	281069	119.3	277559	120.4
	7	9	6	8				
60-64 years old	428779	385322	751949	668077	323170	175.4	282755	173.4
65 and from it adults	699309	546839	124068	989980	541372	177.4	443141	181.0
			1					

These indicators indicate that the population aging process is accelerating. In the period from 2015 to 2025, two main trends were observed in the age structure, namely, the increase in the proportion of the younger generation creates an opportunity for a demographic dividend. The sharp increase in the middle and elderly age groups accelerates the aging process of the population.

The results of territorial demographic studies show that the formation of the sex ratio has significant differences between rural and urban areas, as well as across different age groups:

- in rural areas, due to the high birth rate, the share of men in the younger generation remains relatively high. This situation is explained not only by biological laws, but also by social factors, in particular, the territorial intensity of birth;
- in urban areas, labor migration processes play an important role. In particular, as a result of external and internal migration, more men are attracted to the labor market, there is a decrease in the number of men in some age groups. As a result, the share of women is higher in cities, and a territorial imbalance in the sex ratio is formed.
- in the elderly group, the predominance of women is clearly visible in almost all regions. The main reason for this is the significantly higher life expectancy of women compared to men, higher mortality rates among men, and health disparities.

During 2021-2025, the number of rural and urban residents in the population of Uzbekistan is showing a steady growth trend. However, the rates of this growth differ regionally. The rural population, which was 17.0 million people in 2021, reached 18.4 million people by 2025. The absolute growth was 1.36 million people, and the relative growth was 7.9%. This indicator indicates that natural growth continues in rural areas, but this process is slower than in urban areas. The dynamics of the urban population has accelerated further, reaching 19.1 million people by 2025 from 17.5 million people in 2021. During this period, an absolute growth of 1.63 million people was recorded, and the relative growth rate was 9.3%.

This trend indicates the acceleration of urbanization processes, as well as the strengthening of internal migration flows from rural areas to cities. If in 2021 the number of rural and urban populations was almost equal, then by 2025 the urban population will exceed the rural population by 0.73 million people, and the demographic balance is gradually shifting in favor of urban areas. This confirms the emergence of the demographic urbanization process as a priority trend.

One of the most important features of the demographic development of Uzbekistan is the uneven distribution of the population between rural and urban areas. Although the country's population has traditionally lived more in rural areas, in recent years urbanization processes have accelerated, and the share of the urban population has been gradually increasing. In rural areas, a high birth rate and a larger share of the younger generation are accelerating the natural population growth. In urban areas, demographic growth is explained more by economic factors: the development of industry, the expansion of the service sector, and internal migration flows.

The results of statistical analyses of the age-sex composition of the population of the Republic of Uzbekistan clearly demonstrate the specific territorial features of the country's demographic processes (Table 2). As of 2025, the country's population will be 37.5 million people, of which

18.9 million are men and 18.6 million are women. The sex ratio is 986 women for every 1,000 men. This indicates a slight predominance of the share of women over men.

The analysis conducted by region revealed certain differences between the number of men and women. In particular, Tashkent city (1037) stands out as the region with the highest percentage of women. This is explained by the high employment of women in the capital, the development of the service and social sectors, as well as the outflow of men to other regions or abroad through labor migration. A similar trend is observed in Namangan (967), Kashkadarya (972) and Navoi (973) regions. On the contrary, in regions such as Khorezm (997), Bukhara (994) and Tashkent region (992), the sex ratio is almost equal, with 997, 994 and 992 women per 1000 men, respectively. The level of migration in these regions is relatively low, and demographic stability is maintained.

Table 2

Regional analysis of the sex composition of the population of Uzbekistan (thousand people)²

Regions	Population (total)	Male	Female	Sex ratio (number of males per 1,000 females)
<i>Republic of Uzbekistan</i>	37543.2	18904.5	18638.7	986
<i>Republic of Karakalpakstan</i>	2029.7	1019.8	1009.9	990
Regions:				
<i>Andijan</i>	3461	1753.3	1707.7	974
<i>Bukhara</i>	2077	1041.6	1035.4	994
<i>Jizzakh</i>	1537.6	776.1	761.5	981
<i>Kashkadarya</i>	3639.3	1845.4	1793.9	972
<i>Navoi</i>	1094.7	554.7	540	973
<i>Namangan</i>	3131.7	1591.9	1539.8	967
<i>Samarkand</i>	4297.5	2165.5	2132	985
<i>Surkhandarya</i>	2945.5	1490.9	1454.6	976
<i>Syrdarya</i>	930.8	467.5	463.3	991
<i>Tashkent</i>	3108.5	1560.3	1548.2	992
<i>Fergana</i>	4144.7	2092	2052.7	981
<i>Khorezm</i>	2032.4	1017.6	1014.8	997
<i>Tashkent city</i>	3112.8	1527.9	1584.9	1037

Thus, regional differences in the sex ratio in Uzbekistan are one of the important factors that must be taken into account in the process of forming demographic policy. Regular monitoring of these indicators is of great importance in developing long-term forecasts of natural population movement, migration flows and labor resources.

The age-sex pyramid compiled for 2025 shows significant demographic features in the composition of the population of Uzbekistan.

First, the largest part of the population is made up of the young generation (0-19 years old). In particular, the total share of children and adolescents aged 0-15 years is 17% for men and 15% for women. This indicator indicates that the high birth rate continues, as well as an increase in labor resources in the future. However, this situation also creates an additional burden on the state education and healthcare systems.

² National statistics committee information based on author by structured

Secondly, the population aged 20-39 also constitutes a very significant group. The share of men and women in this stratum is almost equal (about 3-4% each), which indicates that the gender balance in the labor market is relatively stable. This group forms the main part of the working-age population base.

Thirdly, the middle age groups (40-59 years) also have a significant share, their share is more than 10%. This group strengthens the economically active layer of the population and ensures demographic stability.

Fourth, the top of the pyramid - the share of people aged 60 and over - is much lower. In particular, men aged 65 and over account for 2.6%, while women account for 3.3%. This situation indicates two aspects: first, life expectancy is not yet high, and second, in the upper age groups, the number of women significantly exceeds that of men. This difference is explained by natural biological factors, as well as problems with men's health.

In general, the pyramid shape is broad-based and tapers upward. This is a demographic model typical of developing countries, which is explained by high fertility rates, sufficient labor resources, and a predominance of the young population. At the same time, the pyramid also indicates the growth of the demographic burden in the future, increasing pressure on the pension system, and increasing demand for education and jobs.

The study of the territorial differentiation of the population by age and gender in Uzbekistan shows that the traditional features of natural movement in demographic development are preserved. At the same time, gender differences by age groups serve as an important statistical basis for the effective distribution of labor resources and the formation of social policy in the future.

CONCLUSION AND SUGGESTIONS

Statistical analysis of the age-sex composition of the population of Uzbekistan shows that a significant part of the population falls into the working-age age groups, which is an important demographic advantage for the future development of the country. At the same time, differences between the share of men and women in some regions are explained by the migratory movement of the population, as well as regional socio-economic conditions. Therefore, such features of the age-sex composition serve as an important factor in determining the state's labor market, social policy, and regional development strategies. Based on these observations, the following proposals can be put forward:

- 1) taking into account the age structure in demographic policy planning - increasing youth employment, quality of education and professional training should be among the priorities of state policy;
- 2) a deeper study of regional differences - differences in the sex ratio across regions should be taken into account when redistributing labor resources and optimizing migration policy;
- 3) forecasting a gradual increase in the number of elderly people - this will create the basis for a more effective organization of the pension system, healthcare and social services in the long term;
- 4) Strengthening gender policy - the high proportion of women in some regions and the high proportion of men in others require addressing gender equality issues in practical policies.

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