

## LABOUR MARKET AND EMPLOYMENT IN UZBEKISTAN

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### **Labour market and employment in Uzbekistan**

The demographic situation of the population of Uzbekistan and the problems of formation of labour resources, territorial distribution and utilization of labour resources based on it are illuminated in the article. The natural movement of the population of the country today, and in the near future, serves as a leading factor in the effective implementation of the process of reproduction of labour resources. According to the content and essence, the re-establishment of the labour resources is narrower than the re-establishment of the population and it is reflected in the recovery of the number and quality of the economically active population, as well as in the recovery of mental and physical abilities. It has been shown that the demographic situation and demographic development of the regions, on the basis of scientific analysis, are due to the fact that the exact labour resources and the economically active population do not differ significantly in terms of age, sex and territorial composition within the Republic. Furthermore, attempts have also been made to reveal the use of labour resources, employment and its structure of sectors, the problems of employment in men and women and their geographical features. Changes in the population and its employment rate, the share of labour resources in the total population, employment, and labour productivity coefficients of young people, the situation of the economically active population and its dynamics over the past 20 years were analyzed and diagnosed by using comparison and statistical methods.

**Key words:** labour resources, employment of population, Kyots ratio, working age, economically active population, Uzbekistan

### INTRODUCTION

Special attention is paid to the issues of the formation, distribution of labour resources, identification of socio-demographic, economic and geographical factors and regional features of their use, the study of key areas of increasing the employment rate of population in today's era of globalization. At the same time, priority is being given to taking into account the literacy, education, migration, employment of the labour resources, unemployment and regional characteristics of their use which is being formed as a result of natural and mechanical movement of the population. In this regard, special attention is being paid to socio-demographic factors and regional features of the formation of labour resources in countries such as Uzbekistan, which has a high demographic potential.

The labour forces in Uzbekistan are growing steadily due to the positive demographic situation. It is precisely due to the growth and proliferation of demographic processes in the country that the number and quantity of labour resources are high, the sex composition is almost equal, and the average working age is young. The natural movement of the population, age and sex structure play an important role in

the formation of the Republic's labour resources, for some regions the mechanical movement of the population, natural conditions and natural resources also contribute to a certain extent in its use and internal territorial distribution. Therefore, the main purpose of the research is to identify the socio-demographic and economic geographical factors of the formation of labour resources and their territorial characteristics, to determine the main directions of increasing the employment level.

## METHODOLOGY

The interest of the experts in economics and science, which turned out to influence the pace of development of society, has a deep background concerning the difficulties encountered on the employment and labour market. At the same time, the approaches regarding this topic are manifold. Among the launchers of the classical theory of economic science is important to mention some of the authors which inspired this research: Adam Smith (1723 – 1790), David Ricardo (1772 – 1823), Thomas Robert Malthus (1766 – 1834), Jean-Baptiste Say (1767 – 1832), Alfred Marshall (1842 – 1924), John Maynard Keynes (1883 – 1946), Arthur Pigou (1877 – 1959), Milton Friedman (1912 – 2006), Paul Anthony Samuelson (1915 – 2009) and many others who, according to the needs of solving economic problems, stated different ideas of labour market and the employment of population (Ibragimov 2020).

According to the ideas of English scientist, John Maynard Keynes (1883 – 1946), who is the author of several research papers, one of the most popular being named as “The General Theory of Employment, Interest, and Money”, the total employment of population shows approximately 3% of unemployment (Lerner 2013). This condition does not have a negative influence on the degree and level of economic development of unemployment.

Keynes ideas show that the condition of full employment with job is equal to zero unemployment (Currie 2016). Subsequently, there are many approaches based on the meaning “Employment with job”. For example, Russian economist Rofe (2010), gives the following ideas: “employment with job exist in form of free job vacancies for people in the economical active part of the country”. Ismail Aliyev, Nikolai Gorelov, and Lyudmila Ilina stated that: “It depend on proving private – social needs of citizens as an event of social-economic condition of employment with job and as social useful labour which bring income from work” (Aliyev and Gorelov 2012, p. 56). Subsequently, there are full, useful, and free types of employment of population. Here, we give brief information about them. Full employment – this is a supporting job according to this specialty: it brings opportunity and benefit to the person, and creates possibility for good life for themselves and their family (Frolova 2006). Apart from these definition, based on our opinion, employment relations are the social-economic indicator indicating how many and in what level working – age population are participating in social useful work. It is very important to understand economic, demographic, and social meaning of employment in the process of investigating the employment of population. Economic meaning of employment can be seen in terms of supporting the good life from its own labour for staff. In addition, it helps in the development of the effectiveness of production. Social meaning of employment refers to human growth and development (Sovi 1977).

Geographers, economists and demographers scientists have conducted scientific researches related to the formation of labour resources, population employment and demographic processes in Uzbekistan. For example, Abdurakhmanov's work was focused on the study of the economic aspects of the formation of labour resources (Abdurakhmanov 2004, p. 203). The role of geographer Qayumov is of particular importance in the formation of labour resources in Uzbekistan. The scientist studied the formation of labour resources from an economic geographical point of view and focused mainly on socio-geographical factors. Cartographic, extrapolation system composition methods were effectively used in this source (Qayumov 1997, p. 331). Moreover, Umurzakov's scientific researches are devoted to improving the territorial features of the formation and distribution of labour resources and the peculiarities of socio-demographic factors affecting them, as well as the perspective directions for provision of population with employment (Umurzakov 2018). Geographical research work of Yuldashev (2017, p. 45), also another geographer, is to identify socio-demographic factors of formation of labour forces and their territorial characteristics, to determine the main directions of increasing the employment rate of population. The system-composition, demographic-statistical, "cohort-component" or age push, economic and regional analysis, mathematical, geographical-comparative and sociological methods are widely used.

The impact of demographic development in Uzbekistan on population employment and employment of labour resources, change in individual age groups was calculated using the methods of grouping by coefficients, correlation-spearman coefficient, comparison, system composition (Tojiev 2010). Furthermore, Tokhliev and other researchers have analyzed and researched the issue of labour resources and population employment in the economy of the Republic within the economic regions (Tokhliev 2006). The above scientific researches are mainly devoted to the theoretical and practical aspects of the formation of the population and labour resources of the Republic. In addition, some approaches to labour resources were described in the research works of scientists such as Hodiev (1962), Islomov (1969 and 2004), Yangibaev (1973), Imamov (1983), Erdonov (1995) and Egamova (2007). Foreign scientists Litvyakov (1969), Kasimov (1976), Chernova (1982), Breeva (1989) were also engaged in this research works. The scientific research works of such scientists were of special importance.

The methods of statistical observation, statistical groupings, mathematical, comparative analysis indexing are effectively used in this article.

1. *Statistical observation* is a massive systematic observation (carried out according to a developed plan, which includes questions of methodology, organization of collection and control of information reliability), systematic scientifically organized observation of the phenomena and processes of socio-economic life, which consists in the collection and registration of individual characteristics from each unit of the population.

2. *Statistical groupings*, the grouping method, a method of processing and analyzing statistical data, in which the studied set of phenomena is divided into groups and subgroups that are homogeneous by individual characteristics, and each of them is characterized by a system of statistical indicators.

3. *Mathematical methods* are the most important tool for the analysis of economic phenomena and processes, the construction of theoretical models that allow to display the existing connections in economic life, to predict the behavior of economic entities and economic dynamics.

4. *Comparative analysis* is the basis for evaluating a company's performance. The indicators of the current year are compared with the previous period, the actual values are compared with the planned or normative ones, and the data of a particular enterprise are compared with the industry average values. In this article, we will consider examples of the application of comparative analysis.

5. *The geoformation* method uses statistical information obtained from space satellites. Geographic information systems are created using this method.

In determining the level of use of labour resources in macroeconomics, *the employment coefficient of labour resources* – “*Kb*” is used. The higher this ratio, the higher the employment rate of the workable population (Abdullayev 1998).

The Republic of Uzbekistan is a country with an average demographic potential worldwide in terms of the number of population. Its population, according to the data of January 1, 2020, was 34.3 million of people. In this regard, it ranks the third among the CIS countries after Russia and Ukraine and the first among Central Asian countries. The demographic history of a country is characterized by the fact that its population has grown at different rates at different times. In particular, according to the All-Russian population census held in 1897, the territory of present-day Uzbekistan was home to 3,948,000 people, and by 1913, that is, 15 years later, the number had risen to 4,331,000. The results of the 1926 population census, recorded 4,629,000 people. The population has increased by an average of 2,100 a year over the past period. During the last census, in the former Soviet Union (1989 ), 19,780,000 people lived in Uzbekistan (Tojiev 2012). During the years 1979 – 1989, the population of the Republic increased by 4 391 thousand people and the average annual growth was 2.55%. It means that this is 0.45% less than in the previous period.

## DEMOGRAPHIC CHANGE IN UZBEKISTAN

The population of Uzbekistan has grown and continues to grow, mainly as a result of natural increase. The role of this factor has always been high. In recent years, however, it has become the sole source of population growth. However, in the 1990s, there were significant changes in the process of population regeneration, that is, the high rate of birth or natural reproduction in the Republic began to lose its status. In particular, the birth coefficient among the population was 33.7 per mille in 1990, while in 1999 it fell sharply to 22.3 per mille, or by 11.4 points or 1.5 times. In 2020, this figure rose slightly, that is, to 24.6 per mille of births relative to per thousands of people, 4.6 per mille of deaths (Tojiev et al. 2019) and 20.0 per mille of natural increase. In the absence of abrupt changes in mortality, the natural increase of the population remains largely dependent on its birth rate.

The high rate of birth and natural increase among the population of the Republic provides an increase in the number of labour resources. “The source of labour resources is the population of the country. Only the workable part of the population is considered the labour resources. It makes up about half of the country's population” (Tokhliev 2006, p. 43). Nowadays, due to the demographic policy carried out in the period of the former Soviet Union, demographic replenishment and subsequent, in particular, the growth and participation of those born between 1960 and 1985 years, in the process of population regeneration, led to an oversupply or decrease in the use of labour resources in the country.

The labour forces, which make up 55.9% of the population of the Republic of Uzbekistan, is growing steadily due to the positive demographic development. However, in the era of new economic relations, the emergence of imbalances between supply and demand for labour resources has led to problems with socio-economic and demographic development of the population. These problems are especially evident in the processes of formation, use and distribution of labour resources.

**Tab. 1. Age content of the population of the Republic of Uzbekistan in terms of economic aspect (1989 – 2016 years, relative to the total population, in account of percentage)**

Administrative-territorial units	The main age groups of the population								
	Men and women until 0 – 15			Women 16 – 54 Men 16 – 59			55 and older older women, 60 and older man		
	1989	2000	2020	1989	2000	2020	1989	2000	2020
Republic of Uzbekistan	43.0	40.6	30.0	49.0	52.0	58.2	8.0	7.4	9.0
Republic of Karakalpakstan	47.0	41.0	31.3	47.0	52.7	59.5	6.0	6.3	7.8
Andijan	43.0	40.2	29.8	50.0	52.6	58.0	7.0	7.2	8.8
Bukhara	44.0	39.3	28.4	50.0	53.6	59.5	6.0	7.1	9.5
Jizzakh	47.0	44.2	31.7	47.0	49.3	57.6	6.0	6.5	8.4
Navoi	44.0	39.3	28.8	50.0	53.7	59.1	6.0	7.0	9.0
Namangan	45.0	42.0	29.9	49.0	51.2	58.6	6.0	6.8	8.2
Samarkand	46.0	43.5	31.6	47.0	49.7	57.2	7.0	6.8	8.4
Syrdarya	47.0	42.5	30.8	48.0	51.5	61.9	5.0	6.0	7.3
Surkhandarya	49.0	45.9	32.3	45.0	47.9	58.0	6.0	6.2	7.2
Tashkent	40.0	37.7	28.3	51.0	53.5	58.0	9.0	8.8	10.7
Fergana	42.0	40.1	29.0	50.0	52.1	58.4	8.0	7.8	9.4
Khorazm	47.0	41.3	31.0	47.0	52.2	59.7	6.0	6.5	7.8
Kashkadarya	49.0	45.5	32.2	46.0	48.4	58.2	5.0	6.1	7.6
Tashkent city	31.0	28.9	25.1	58.0	59.3	56.2	11.0	11.8	14.7

Source of data: The State Statistics Committee of the Republic of Uzbekistan.

According to statistic information, the number of labour resources in the Republic in 1991 reached to 10 213.2 thousand, in 1995 to 11 111.4 thousand, in 2001 to 12 740.1 thousand, in 2005 to 14 453.6 thousand and in 2020 to 19 142.3 thousand of people (Tokhliev 2006) or equal to half or more of the country's population. At the same time, the share of labour resources in the content of total population is growing from year to year. On the contrary, the share of these labour resources employed in the economy is declining. This is because in 1991, 80.8 percent of the

total labour forces were employed, in 2001 it was 71.3%, and in 2020 it was 69.1% (Table 2). However, during this period, the share of labour resources in the content of total population increased from 49.0% to 55.9%. Almost three fifths (58.2%) of the country's population is of working age and 74.4% of them are currently economically active population (EAP).

Labour activity of the population and the share of the workable population engaged in social production determine the criteria for the use of labour resources. In Uzbekistan, this criterion is more than 99.8%. At the same time, the fact that 56.2% of the economically active population is located in rural areas also shows that the rural areas are the leaders in the socio-demographic development of the country. However, it is well known that in rural areas, the sectors in which the population can be employed have developed in a narrow range, leading to the concentration of most of them in agriculture. In addition, the fact that the above-mentioned demographic situation is aimed at ensuring population growth, as well as changes in social production branches, the emergence of various forms of ownership affect the provision of rural areas with excess labour resources.

Another indicator of the qualitative assessment of the economically active population is its distribution by forms of ownership. According to the forms of ownership, the labour resources of the Republic are engaged in the public sector and the non-governmental sector, and the non-governmental sector is the leader in their mutual proportion. Consequently, in 1991, 61.2% of the population employed in the economy worked in the state sector. In 2001 this figure was 24.0% and in 2020 it was equal to 16.8%.

Changes in the population employment and in its composition by the forms of ownership have led to an increase in the share of employment in the non-governmental sector. As a result, population employment in this sector increased from 38.8% to 78.0% in period 1991 – 2020. In particular, the share of those engaged in private and individual labour activities is high. Indeed, the number and share of people working on farms belonging to the non-governmental sector is growing. For instance, in 1995 alone, 201.5 thousands of people worked on farms in the country, their number increased by 4 times in 2005 and by 8 times in 2020.

**Tab. 2. Population and changes in its employment rate (1991 – 2020)**

Employment indicators	1991	1995	2001	2005	2020
Number of population – thousand people	20 862.5	22 659.8	24 964.4	26 167.0	33 905.2
Labor resources, thousand people	10 213.2	11 111.4	12 817.4	14 453.2	19 142.3
In total population, in %	49.0	49.0	51.3	55.2	55.9
Busy in economy, thousand people	8 254.6	8 157.5	9 136.0	10 196.3	13 239.6
Share of employment in the total labor resources, in %	80.8	73.4	71.3	70.5	69.1
Share of busy in economy in the total population, in %	39.6	36.0	36.6	38.9	39.1

Source of data: The State Statistics Committee of the Republic of Uzbekistan.

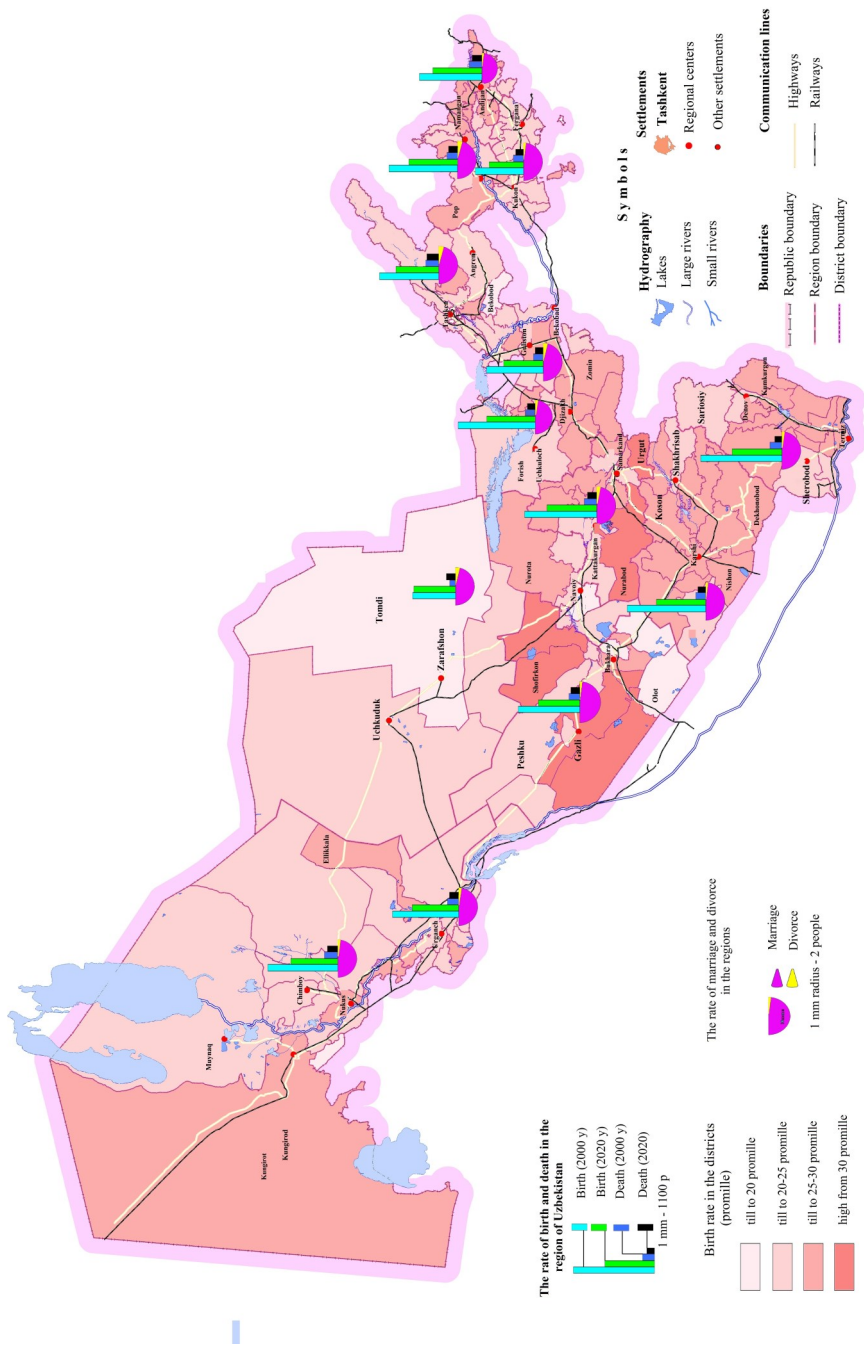


Fig. 1. Natural movement of the population of Uzbekistan

One of the important economic functions of the labour market is the distribution of the population across economic sectors. There have been a number of changes in the dynamics and structure of population employment in different sectors of the economy. For example, during years 1991 – 2020, the growth rate of the population employed in the economy of the Republic was equal to 154.1 percentages. Such a development feature was also noted for all sectors and fields, but the relative number of those engaged in agriculture alone decreased. On the contrary, the share of employment in industry, construction, transport and service sectors have increased. Although the number of people employed in agriculture and forestry has decreased, they still have the largest share of those employed in the overall economy. Consequently, the employment of women compared to men is growing year by year in this production-oriented sector. Industry, agriculture and construction are the sectors that have the potential to provide a high level of population employment in the Republic. Therefore, equally half of the populations employed in the economy, that is, 49.8% belong to these sectors. However, this indicator was 60.3% in 1989.

The level of mastery of new modern scientific and technical achievements and technologies in Uzbekistan, as well as the emergence of specialists with in-depth knowledge and skills and with the level of high-quality services are one of the main factors in increasing the number and potential of employment in the field of public services. In particular, in 1989 – 2020, population employment in trade and public catering increased by 3.2 times, by 1.7 times in health care, sports and social protection, this figure increased by 1.6; 1.3 and 1.1 times, respectively in public utilities, education, arts, science, transport and communications. Among them, a high level of women's employment is observed in education sector, which accounts for 13.7% of the total employed population in the country's economy (Abdurakhmanov 2020). Increased employment of women is one of the factors leading to a qualitative shift in the birth process. However, women's employment in the sector under consideration decreased by 5.4 times between years 1999 and 2020. In addition, 10 percent of the total population is employed in trade, public catering and household services, of which 55 percent are women. In a state of free economy, the development of the markets system and the growth of the service sectors, which is closely related to it, will naturally increase employment in these areas.

The number of people working in the fields of health care, sports and social security, which cover only more than 7% of the total population employed in the economy of the country, is growing from year to year. The growth of employment in these areas will play an important role in improving the socio-demographic situation in the regions. In addition, the growth of women's employment in all sectors and areas is directly related to their socio-economic and demographic development.

The level of development, distribution and utilization of labour resources in Uzbekistan is harmonized with the natural conditions of the regions, historical forms of management and features of national traditions. An example of this is the location and development of agriculture, national handicrafts and the so-called home-based industries today. The country has great potential for irrigated agriculture. The share of agricultural workers is relatively high in Surkhandarya, Jizzakh, Bukhara, Khorezm, Syrdarya and Andijan regions, where the majority of the population lives in rural areas. If we take into account that equally half of the population of the same regions was employed in this sector in 1999, we can see that this figure has now fallen in the range of 2 – 12 points. At the same time, the share of the po-



pulation engaged in agriculture and forestry in the structure of the population employed in the sectors of the economy of Navoi, Tashkent and Fergana regions is smaller than the national average.

A significant and leading sector of the economy in industry is the employment of  $\frac{1}{4}$  part of the population of Tashkent city, Tashkent, Navoi, each of the regions is associated with the location and development of enterprises in the same sector. The industrially developed Tashkent city and region accounts for 21% of the total labour forces of the republic, economically active population and employment in the economy.

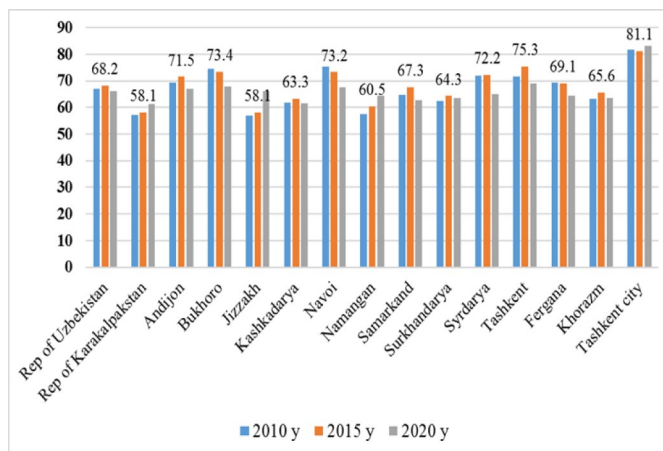


Fig. 2. Employment rate of the population of the regions of the Republic of Uzbekistan (in %)

However, the employment of the population of Jizzakh, Surkhondarya, Kashkadarya and Khorezm regions in industrial sector, whose demographic potential is growing year by year due to the natural movement of the population, is less than 10 %.

Achieving an increase in the share of population employment in industry and other service sectors in these regions will be an important factor in their qualitative shift in demographic development. The share of the population engaged in the public service sectors and intangible industries is growing in most regions. Especially, the share of the population engaged in health care, sports and social welfare increased significantly in the years 1999 – 2020 in Andijan, Samarkand, Syrdarya, Fergana regions and Tashkent city. The share of the population engaged in education, culture, art, science and scientific activities during this period increased by 2 – 2.5 points in Jizzakh, Kashkadarya and Samarkand regions.

Indeed, more than 15 percentages of the total population is engaged in education sector in the Republic of Karakalpakstan, Jizzakh, Samarkand regions and the city of Tashkent. In general, the economic, socio-demographic development of the Republic requires a lot of employment of population in these sectors. This is due to the fact that the opportunities for farming in agriculture are somewhat limited the increase in demographic pressure in the regions where livestock is predominant in terms of specialization, the provision with employment of workable youth are cre-

ating the problem of unemployment. This is especially evident in Kashkadarya, Andijan, Fergana and Samarkand regions, which have a high rate of natural population growth and have the largest share of the country's total labour forces and economically active population. The large gap between supply and demand in the labour market, the emergence of unemployment began to affect not only the employment of the population in various sectors of the economy, but also the socio-economic situation, its demographic views and attitudes. Nonetheless, the fact that the majority of the population is engaged in agriculture and the population of regions with low rate of employment in industry and other sectors is still actively involved in demographic development highlights the need to solve a number of problems in socio-demographic development of regions, labour market and its use.

The fact that the labour force and the economically active population in the country do not differ significantly in terms of age, sex and regional composition is due to the positive demographic situation in the regions. The high number and potential of the economically active population and its gender equality are important for its reproduction. This is because the balanced development of the sex composition of the population contributes to the formation of labour resources in the country and increase the efficiency of its use. Indeed, today the sexual composition of the economically active population of the Republic (women – 46.0; men – 54.0 percent, 2020) shows how high their access is (Abdurakhmanov 2020). It is these differences between men and women in society in terms of social activity, forms of activity, behavior and psychological characteristics that address gender equality, support for women and the family, taking into account the tasks set out in the Action Strategy for the five priority areas of development of Uzbekistan in 2017 – 2021. Radical improvement in the field of strengthening the institute has been identified as one of the priorities. This is not in vain, because the proportion of women in the total population employed in the sectors of the economy of the country with men (45.6% in 2015) reflects their active participation in social production. But the busiest part of women is in urban areas, regional and district centers. However, access to employment and employment opportunities for women with secondary and incomplete secondary education is much more limited in rural areas, leading to their employment only in the household. However, the number of children born in the same group of women is relatively high.

The level of education and skills of able-bodied youth in the country is growing from year to year. In particular, in 1989, only 12.7% of those employed in the economy had higher education, 21.4% had incomplete higher and secondary special education, and by 2020, 31.5%; 37.5% and 31.0% respectively. Existing sources show that the share of secondary and incomplete secondary education in the level of education of the population engaged in the economy is high. Especially in the period under review, the share of the employed population with higher and secondary special education among women developed rapidly, with a higher proportion than among men. In 1989, the share of women with higher education in total employment was 1.2 points lower than that of men, and in 2020 it increased by 0.2 points, which is a direct result of their socio-demographic development.

The fact that 56.2% of the economically active population lives in rural areas also shows that the countryside is a leader in the socio-demographic development of the country. However, the narrow development of industries in rural areas, which can be used by the population, has led to the concentration of most of it in agriculture. In addition, the above-mentioned demographic situation is aimed at

ensuring population growth, which leads to an oversupply of rural areas with labour resources.

Existing sources show that the share of secondary and incomplete secondary education in the level of education of the population engaged in the economy is high. Especially in the period under review, the share of the employed population with higher and secondary special education among women developed rapidly, with a higher proportion than among men. In particular, in 1989 the share of women with higher education in total employment was 1.2 points less than men; in 2020 this figure increased by 1.2 points, which is directly reflected in their social activity in society, socio-demographic development. The role and place of women in the work carried out in the Republic to support women and strengthen the institution of the family is invaluable. In this regard, ensuring gender equality in all spheres of society, raising the status and career of women are important tasks. Consequently, in the contribution of women to the development of society, it is noteworthy that the number and quality of highly qualified women employed in various sectors of the economy is growing.

The number of people working in the healthcare, sports and social security sector, which covers only 7.2% of the total population employed in the economy, is growing year by year. In addition, women's employment in these sectors is high at 75.5%. In particular, the share of women in the population working in trade and catering services is growing. The growth of women's employment and education is one of the important factors determining the birth rate. Therefore, the increase in the level of employment of women in the economy in recent years is directly reflected in their socio-demographic activities, demographic views, changes in the socio-demographic situation in the regions.

In particular, during the research period, women's employment in industry, public education, culture, arts and science, health care and sports sectors increased by 1.4 – 4.1 times (Tojiev et al. 2019). Despite the high level of women's employment in education, accounting for 12.8% of the employed population in the economy of Uzbekistan, its rate decreased by 7.4 times in the period 1999 – 2020. According to statistic information, in 2019, 35.0% of the total number of candidates for the degree of Doctor of Philosophy (PhD) studying in the basic doctoral programme are women in higher education institutions in the country, 36.8 percent of women are accepted the level of Doctor of Philosophy (PhD) and while 34.0 percent of women are graduate PhD candidates. Furthermore, the number of women in the country trying to obtain a Doctor of Science (DSC) degree is also increasing year by year. For instance, when examining the number of doctoral students by gender in the current year, their number, admissions, and total number of graduates were found to be 185 in total. It is a positive fact that total women admitted to the doctoral programme for the degree of Doctor of Science were equal to 42%. However, it is observed that the share of women seeking a doctorate in graduate science is 36.2% and men 63.8%.

In the analysis of female doctoral students in basic sciences, the share of women in the natural sciences is only 26.9 percent, 17.0 percent in the technical sciences. It is positive in the medical sciences, that is 61.6 percent, in the social sciences and 41.3 percent 46.0 percent in the humanities. The fact that a relatively large number of women doctoral students studying and conducting research in the medical, social science and humanities is an important factor not only in society, but also in families in the growth and rise of the intellectual potential of family members, in the

upbringing of spiritually advanced people. When examining the gender composition of students in this basic doctoral programmes at the regional level, it was found that the share of women is relatively higher in Bukhara (51.8% of women) and in Kashkadarya (40.0% of women) regions. Even in Bukhara region, the number of women studying for obtaining the degree of Doctor of Science (DSC) is considered to be leading in terms of the quantity, with 50 percent doctoral students being women.

The role and importance of women scientists in society can be clearly seen in the results of their work. In turn, during this period the increase in the number of women PhDs by 483 and the number of doctors of sciences by 201, as well as the share of women with higher education in the economy exceeded the number of men by 32% and this contributed to a certain extent to the decline in births. The State's attention to women's employment shows that the increase in the level of education will lead to the acceleration of the transition from the re-establishment of the ordinary population in the Republic to the reduced type and the closure of the doors of economic opportunity. In particular, the results of performed calculations on the coefficient of employment of labour resources and the coefficient of efficiency of the age structure of the population fully prove this view.

## RESULTS

The employment coefficient corresponding to per 100 people of the total labour force of the Republic decreased from 72.6 to 70.8 in the period 1999 – 2005 and it was equal to 74.8 in 2014. This – *Kb* is higher than the national level in Tashkent, Fergana, Navoi, Bukhara regions and the city of Tashkent, where are heavy “demographic burdens” with a diverse demographic structure and social production. Mainly industrial, public service sectors are developed. On the contrary, out of every 100 labour resources, only 61 – 70 are regions engaged in social production (Abdurakhmanov 2004). These include the Republic of Karakalpakstan, Jizzakh, Namangan, Surkhandarya and Kashkadarya, which have a high rate of natural population growth and the structure of population employment sector is mainly dominated by agriculture and mountainous pastoral livestock which is predominant relative to farming.

When looking at the efficiency coefficient of the age structure of the population – “*Kyots*”, which characterizes the number of adolescents of working age per 100 working-age populations, in terms of regional composition, it was observed that its rate was declining in all regions (Tojiev 2010).

“*Kyots*” – coefficient is higher than the national level in Jizzakh, Surkhandarya and Kashkadarya regions, that is, accordingly, the equations to 52.4; 52.9 and 53.4 (Tojiev 2010) are only the result of demographic development. These ratios are less than 50 in the city of Tashkent and its region, as well as in Navoi, Andijan, Bukhara, Syrdarya and Fergana regions, which are urbanized, have a sharply different demographic composition and a rapidly declining natural population growth rates.

**Tab. 3. Regional indicators of the use from labour resources (1999 – 2015 years)**

Administrative-territorial units	1999		2005		2019	
	Kb *	Kyots *	Kb *	Kyots *	Kb *	Kyots *
Republic of Uzbekistan	72.6	80.7	70.8	62.7	74.8	48.7
Republic of Karakalpakstan	66.4	81.1	63.1	62.1	64.8	50.7
Andijan	75.2	78.9	72.5	61.6	79.1	47.8
Bukhara	79.0	76.2	77.8	57.9	83.1	45.1
Jizzakh	62.4	92.6	60.5	72.5	62.6	52.4
Navoi	78.6	76.2	83.1	57.8	81.6	45.8
Namangan	64.2	85.0	61.3	65.7	66.3	47.8
Samarkand	71.4	90.6	68.7	69.7	74.1	52.1
Syrdarya	75.2	85.9	75.8	63.7	80.2	49.7
Surkhandarya	72.5	99.3	63.1	75.4	70.4	52.9
Tashkent	73.4	72.9	72.4	55.9	82.6	45.8
Fergana	76.5	79.6	75.5	61.9	78.5	46.5
Khorazm	70.9	82.3	66.6	63.4	75.8	50.8
Kashkadarya	73.2	97.1	65.6	74.1	69.3	53.4
Tashkent city	73.6	49.9	81.9	41.6	78.8	41.2

\*Note – “Kb” – the employment coefficient of labour resources, “Kyots” – the efficiency coefficient of the age structure of the population.

Source of data: The State Statistics Committee of the Republic of Uzbekistan.

However, there were 72.9 and 76.2 adolescents per 100 workable people in these regions in 1999. These include the economic development of the capital, region and the city, population density, demographic composition and situation, relatively low growth of labour resources and a high level of employment in their social production. In addition, the share of workable young people is the largest in the age structure of population in the republic. The decrease of coefficient of this “Kyots” – once again confirms that the number of children and adolescents in the country is declining due to the decline in the birth rate of population in the conditions of market relations in the republic and the population of regions is moving to the modern type of regeneration of population or the third phase of “demographic transition period” (Tojiev 2010). According to the information of the International Labour Organization, 211.5 million of people are unemployed worldwide, or it is equal to 6.6 percent of the economically active population. Experts believe that “when the unemployment rate is around 4 – 5%, it is economically normal, natural state, no problem” (Bunkina and Semenov 1997, p. 41). Unemployment rate in Uzbekistan is currently stable at 4.9%, despite the positive demographic situation. Unemployment level is higher than the national average rate in the Republic of Karakalpakstan, Khorezm, Namangan, Surkhandarya and Navoi regions and relatively low in other regions.

Those born in the period when the birth rate was high in the 1980s who are now considered to be of working age, they are contributing to the re-establishment of

the country's population. At a time when the working age population is growing year by year, the aggravation of the unemployment problem is natural. These problems are clearly observed in young people and women in rural areas, leading to changes in their demographic inclinations, views and attitudes (Tojjeva et al. 2020).

## CONCLUSION

Consistent implementation of programmes of local and state importance in Uzbekistan, increasing attention to home-based work and private entrepreneurship further increase the employment opportunities of the unemployed people who apply to labour exchanges. Moreover, during the study period, new forms and types of employment of the population of Uzbekistan appeared, which allow us to use the growing demographic potential not only at home country, but sometimes abroad (Tojjeva 2010). This includes state-organized temporary employment abroad (in Republic of Korea), illegal temporary employment abroad, dealing with the import of goods individually by a certain part of the population (Russia, Kazakhstan, UAE, Turkey, China and etc.) as well as temporary employment in the regions and cities of the Republic with a very common private hire.

Some of these new forms and types of utilization of labour resources represent self-employment without the state support and play an important role in solving the problem of unemployment. Nonetheless, it is undeniable that in these types of employment there are negative consequences in the processes associated with the demographic development of the working aged population – death, divorce, marriage and birth (Tojjeva et al. 2019). Therefore, it is necessary to revise the relevant legislative framework in the population employment policy of the Republic, based on the principles of legal, social, demographic protection of people in new forms and types of employment.

At the present time, the demographic development of the regions of the Republic requires the effective use of existing labour potential. This is because a large part of the population is engaged in agriculture and the population of regions with the low level of employment in industry and other sectors is in active demographic development (Tojjeva 2012). An increase of labour resources will allow the doors of economic opportunity to remain open for a long time. As a result, it is necessary to further improve the effective use of labour potential through the way of daily, temporary (for a certain period of time) and permanent migration by legally organized from the rural regions to cities and other countries. Only if current economic opportunity in the Republic is used properly, the problems associated with demographic development (such as unemployment and low income), will not be exacerbated or the cause of all problems will not be sought from the demographic situation.

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## TRH PRÁCE A ZAMESTNANOST' V UZBEKISTANE

Hlavným cieľom tohto článku je charakterizovať populáciu Uzbekistanu a problémy vytvárania, priestorového rozmiestnenia a využívania zdrojov pracovných síl. Prirodzený pohyb obyvateľstva krajiny je v súčasnosti a bude aj v blízkej budúcnosti hlavným faktorom efektívnej implementácie procesu reprodukcie zdrojov pracovných síl. Dôvodom je skutočnosť, že obnova zdrojov pracovných síl je súčasťou obnovy populácie, čo sa prejavuje pri obnove počtu a kvality ekonomicky aktívneho obyvateľstva, ako aj pri obnove mentálnych a fyzických schopností obyvateľstva. Aj keď prirodzený pohyb obyvateľstva i jeho štruktúra podľa veku a pohlavia hrajú dôležitú úlohu pri formovaní zdrojov pracovných síl, aj mechanický pohyb obyvateľstva z určitého hľadiska prispieva v niektorých regiónoch k využitiu a priestorovému rozmiestneniu zdrojov pracovných síl.

Na základe uskutočnených analýz sa ukázalo, že demografická situácia a demografický vývoj v regiónoch sú dané skutočnosťou, že zdroje pracovných síl a ekonomicky aktívne obyvateľstvo sa z hľadiska veku, pohlavia a priestorového rozmiestnenia v rámci Uzbekistanu významne nelíšia. Okrem toho boli vykonané analýzy využívania zdrojov pracovných síl, zamestnanosti a jej štruktúry podľa odvetví, ako aj problémov zamestnanosti mužov a žien. Analyzovali sme taktiež zmeny v populácii a mieru zamestnanosti, podiel pracovných zdrojov v celkovej populácii, zamestnanosť, koeficient produktivity práce mladých ľudí a stav ekonomicky aktívneho obyvateľstva a jeho dynamiku za posledných 20 rokov.

Zistili sme, že spomínaná demografická situácia vedie k zaisteniu rastu populácie, ako aj k zmenám v sociálnej produkcii. V dôsledku vzniku rozličných foriem vlastníctva dochádza vo vidieckych oblastiach k vytváraniu nadbytočných pracovných síl. Súčasný demografický vývoj regiónov Uzbekistanu si vyžaduje efektívne využitie existujúceho pracovného potenciálu a na túto skutočnosť sa náš výskum zameriava. Je to preto, že veľká časť populácie sa zaoberá poľnohospodárstvom a obyvateľstvo regiónov s nízkou úrovňou zamestnanosti v priemysle a v iných odvetviach sa aktívne demograficky rozvíja. Nárast zdrojov pracovných síl tak umožní, aby dvere ekonomických príležitostí ostali otvorené počas dlhšieho obdobia. V dôsledku toho je nevyhnutné naďalej zlepšovať efektívne využívanie pracovného potenciálu prostredníctvom legálne organizovanej dennej, dočasnej (na určité časové obdobie) a stálej migrácie obyvateľstva vidieka do iných miest a krajín. Iba ak sa správnym spôsobom využijú súčasné ekonomické príležitosti v Uzbekistane, problémy súvisiace s demografickým vývojom, ako je nezamestnanosť a nízky príjem, sa nebudú zhoršovať alebo sa príčina všetkých problémov nebude hľadať v demografickej situácii.



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