

# The Labor Market Development in the Conditions of Digital Economy of Uzbekistan

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## Abstract

The paper examines the main labor market issues of Uzbekistan, incorporating the demographic situation in the country. Also at the research work the key indicators of digital development of Uzbekistan has been investigated. Following the authors’ approach Uzbekistan has significant opportunities to receive a demographic dividend by investing in human capital, especially taking into consideration the increasing human capacity in the field of digital development.

**Index Terms**— demographic dividend, digital economy, human capacity, labor market issues.

## 1. Introduction

Demographic processes in Uzbekistan have a significant impact on the socio-economic development of the country, including the labor market, employment and unemployment, making it necessary to take them into account in the development and implementation of state policy, especially during the transition to the digital economy.

Through this change in age structure of the population, nowadays Uzbekistan is in the stage, classified as an “early demographic dividend”. Growth share of the working-age population over the next several years with moderate dependency ratios will create favorable demographic conditions for economic growth - the so-called demographic dividend. Demographic dividend due to the fact that the working population approaches its maximum which means fewer dependents. As a result, most of the national income may be directed towards consumption, production and investments, which, in its turn, will give impetus to economic development.

The paper examines the main labor market issues of Uzbekistan, incorporating the demographic situation in the country. Here the key indicators of digital development of Uzbekistan has been investigated. Following the authors’ approach Uzbekistan has significant opportunities to receive a demographic dividend by investing in human capital, especially taking into consideration the increasing human capacity in the field of digital development.

## 2. Demographic Dividend and Labor Market Issues of Uzbekistan

### A. Demographic Situation

Nowadays Uzbekistan is a country with the largest permanent population in Central Asia, numbering more than 35 million of people to 2022 [1]. Despite a rapidly growing population, the country has been developing its economy rapidly enough in recent years and has grown its GDP by 5,4 % at the end of the first half 2022 [2]. In particular, the urban population reached 50.5% of the total population, the rural 49.5% [3].

### B. Opportunities for Demographic Dividend

During the last 25 years in Uzbekistan there is a change in age structure of population. Fertility and infant mortality reached a low and stable level. According to the analysis, whilst the share of permanent

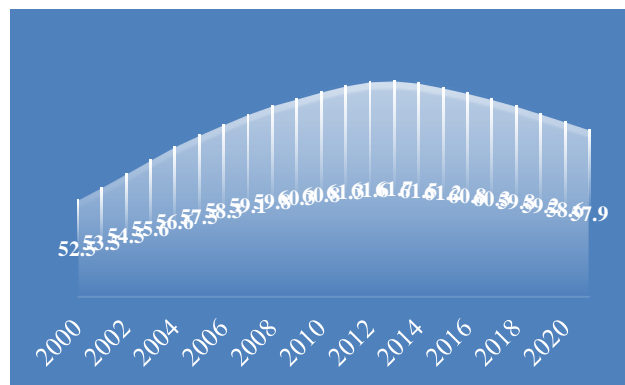
population is continuing to increase, it has stabilized and remains young, as dependency ratio (children under the age of 15 and people over 65) has decreased among the total population (Fig.1).



**Fig. 1. Distribution of permanent population by main age groups (as of April 1, 2020, % of the total population)**

- a. The state committee of the Republic of Uzbekistan on Statistics Report. 2022. Available at: <https://stat.uz/en/quarterly-reports/5868-2020> (retrieved 01.10.2022y.)

Despite the decline trends of the past few years in the proportion of the working-age population in the permanent population, it remains quite high - over 57.9% in 2021 (Fig.2).



**Fig. 2. Distribution of permanent population by main age groups (as of April 1, 2020, % of the total population)**

- b. The state committee of the Republic of Uzbekistan on Statistics Report. 2022. Available at: <https://stat.uz/en/quarterly-reports/5868-2020> (retrieved 01.10.2022y.)

### C. Labor Market Issues

Local experts assess the current state of the labor market as complex and controversial [4]. A positive trend in Uzbekistan's labor market is the accelerated growth of the economically active population. For the period 2010-2020, the number of economically active population increased by 20.4% in the whole country and amounted to almost 15.0 million people (Fig.3).

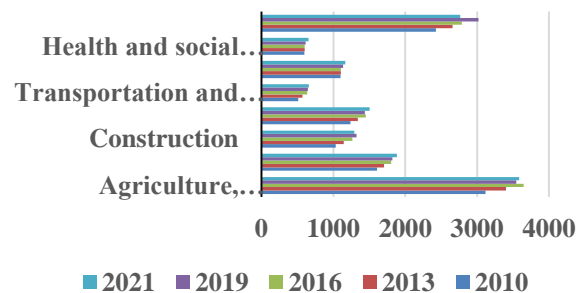


**Fig. 3. Number comparison between employed and economically active population, 2010-2021yy., thousand people**

- c. The Ministry of Employment and Labor Relations of Uzbekistan. Available at: <https://www.stat.uz/ru/ofitsialnaya-statistika/labor-market> (retrieved 01.10.2022y.)

In the structure of the working-age population a significant proportion is totaled of young people under the age of 30 years. At the same time, the problem of employment of a rapidly growing working-age population continues to be the most acute of the socio-economic problems, affecting a significant part of the economically active population and families. Due to the imbalance in the growth of the economically active population and the creation of new jobs, the employment rate of the economically active population has decreased from 94.6% to 89.5% over the past ten years (Fig.3).

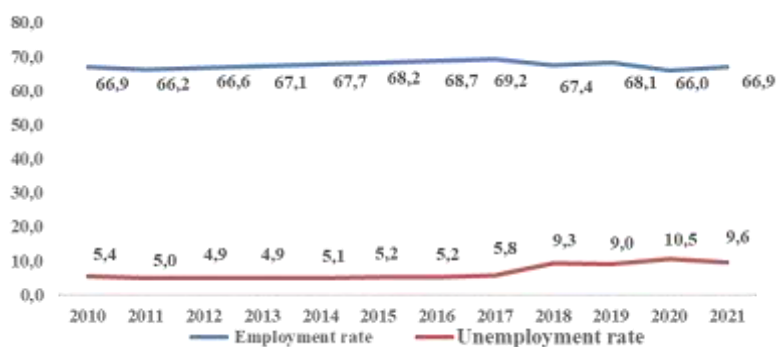
One more positive trend in the Republic is the increasing of employment in service sector. Despite the significant share of those employed in industry and agriculture, the number of people employed in the service sector is bound to grow. It is important to note that, since 1990, the share of employment in agriculture has decreased by 19%, while the share of employment in the service sector has increased by 20%. According to forecasting data of the Ministry of Employment and Labor Relations of Uzbekistan, by 2035 the share of employment in the service sector is planned to increase to 60%, reducing the share of employment in agriculture to 12% (Fig.4).



**Fig. 4. Employment by economic activity, 2010-2021yy., thousand people**

- d. According to the Ministry of Employment and Labor Relations of Uzbekistan. Available at: <https://www.stat.uz/ru/ofitsialnaya-statistika/labor-market> (retrieved 01.10.2022y.)

One of the negative sides of labor market development in Uzbekistan is rising unemployment (Fig.5).



**Fig. 5. Employment and unemployment trends in Uzbekistan, 2010-2021yy., %**

- e. The Ministry of Employment and Labor Relations of Uzbekistan. Available at: <https://www.stat.uz/ru/ofitsialnaya-statistika/labor-market> (retrieved 01.10.2022y.)

As one of the reasons for high unemployment, especially in recent years, it's considered the discrepancy between the supply and demand for labor, both in terms of quantitative parameters and the level of competence of those who wants to find a job and the requires (especially digital skills) of employers.

### 3. Labor Market and Digital Economy

### **A. National Goals and Objectives**

The President of Uzbekistan repeatedly remarks, that one of the priority tasks for the consistent socio-economic development of Uzbekistan is the widespread use of ICT and digital technologies.

Reference [5] outlines a range of main issues related to the widespread introduction of digital technologies in the activity of domestic enterprises and government services, the training of IT specialists, comprehensive support for IT entrepreneurship, and many others.

The large-scale policy document [6] includes road maps for the digital transformation of priority economic sectors and regions.

It should be noted that in the past two years, even in conditions of the COVID-19 pandemic, large-scale digital reforms have been carried out in the country. And, importantly, nowadays, the importance of measures for the widespread introduction of digital technologies in the field of public administration, public services, and trade has been clearly demonstrated.

### **B. The analysis of Digital economy and Labor Market indicators**

The future of labor market depends upon several factors, long-term competitiveness and the demographic developments, etc. However, one of the main drivers of technological change in the foreseeable future is digitalization and central to this development is the production and use of digital logic circuits and its derived technologies, including the computer, the smart phone and the Internet [7].

Throughout the last decade, Uzbekistan has experienced rapid growth in almost all indicator rates. Table 1 represents the increase of key ones.

**Table I. The key digital indicators in Uzbekistan**

- a. The state committee of the Republic of Uzbekistan on Statistics Open Data. 2022. Available at: <https://stat.uz/en/official-statistics/tsifrovaya-ekonomika-eng> (retrieved 01.10.2022y.)

Indicators/Years	2015	2016	2017	2018	2019	2020	2021
The number of computers connected to the Internet at enterprises and organizations, at the end of the year, <b>units</b>	223 907	271 357	310 459	358 003	413 417	441 913	538 933
The number of subscribers with Internet access, at the end of the year, <b>per 100 people of the population</b>	26,6	30,2	34,5	40,4	48,8	58,4	65,8
The number of employees in legal entities working in the field of <b>ICT, people</b>	33413	34478	37958	40248	47697	50157	53782

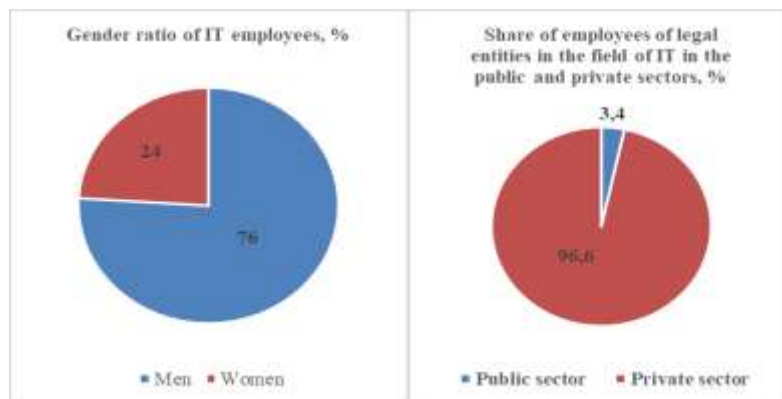
It should be noted that over the past eight years the number of computers connected to the Internet at enterprises and the total number of subscribers with Internet access nationwide increased by approximately 2.5 times, whilst the number of employees in legal entities working in the field of ICT by 1.5.

According to the Register of Self-Employed Citizens by Type of Activity in Uzbekistan, as of 2021, 70 types of activities of self-employed workers were identified, of which paragraph 62 and 63 are partly or wholly related to IT activities. For instance, paragraph 62 covers the creation and processing of multimedia,

design and art materials – *Web Designer, Graphic Designer, Computer Game Designer, Interior Designer, Landscape Designer, Costume Designer, Retoucher, Photo Collage, Vector Graphics Editor, Architect, Visual Designer, Data Designer, Interface Designer, Technical Designer, Mouse Designer, Banner Creator, Publishing Designer, 3D Designer, Video Editor, Videographer, Composer, Sound Engineer, Arranger, Presenter, Photo Editor, etc.* A paragraph 63 covers software, information systems, mobile applications, website development and technical support – *Programmer, Software Tester, Webpage Designer, Web Analyst, Website Optimization Specialist* [8].

### C. Human Capacity of Uzbekistan in Digital Era

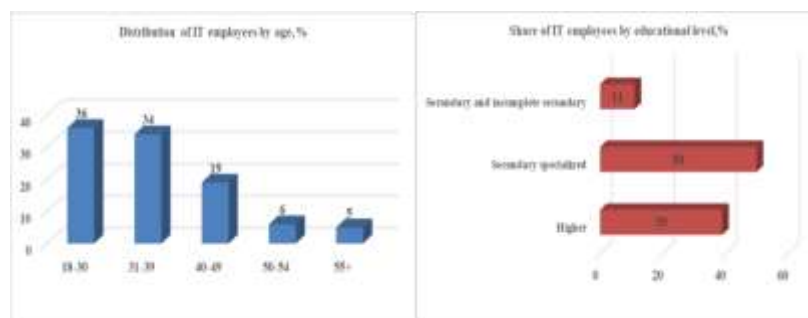
Slightly over 60% of IT employees are located in the capital – Tashkent city. The number of IT employees working in the private sector was 96,6%, in the public sector 3,4%. In the gender context, IT employees were divided as follows: 38,299 (75.7%) men and 12,310 (24.3%) women (Fig.6).



**Fig. 6. Gender ratio of IT employees and share of employees of legal entities in the field of IT in the public and private sectors, %**

- b. The Ministry of Employment and Labor Relations of Uzbekistan. Available at: <https://www.stat.uz/ru/ofitsialnaya-statistika/labor-market> (retrieved 01.10.2022y.)

Educational level of IT employees in the county is as follows: the largest share – secondary specialized (50.0%), more than a third – higher (39.0%), and the smallest share – secondary or incomplete secondary (11.0%) education.



**Fig. 7. Distribution of IT employees by age and share of IT employees by educational level, %**

- c. The Ministry of Employment and Labor Relations of Uzbekistan. Available at: <https://www.stat.uz/ru/ofitsialnaya-statistika/labor-market> (retrieved 01.10.2022y.)

## 4. Conclusion

Concluding our research, we assume, that Uzbekistan has significant opportunities to receive a demographic dividend by investing in human capital, especially taking into consideration the increasing human capacity in the field of digital development.

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