ECONOSCITECH INTEGRATION

ISSUE 6

INTERNATIONAL SCIENTIFIC ELECTRONIC JOURNAL

TASHKENT STATE UNIVERSITY OF ECONOMICS

American University of Technology
Powered by Arizona State University®

ISSN: 3060-5075

Acceptance of articles
PUBLISHED EVERY MONTHLY

ARTICLE CONTRIBUTORS
PROFESSORS-TEACHERS, SPECIALISTS AND SCIENTIFIC RESEARCHERS.

Google Scholar
Academic Resource Index ResearchBib
BASE
OpenAIRE
doi Digital Object Identifier
OPEN ACCESS

CONTACT: +998 94 3540880 https://econoscitech-integration-journal.uz 2026

THE SCIENTIFIC-POPULAR ELECTRONIC JOURNAL **"ECONOSCITECH-INTEGRATION"** HAS BEEN REGISTERED UNDER THE NUMBER C-5669651 BY THE AGENCY FOR INFORMATION AND MASS COMMUNICATIONS (AOKA) OF THE REPUBLIC OF UZBEKISTAN, EFFECTIVE FROM OCTOBER 9, 2024.

In accordance with Resolution No. 384/6 dated April 10, 2026, issued by the Presidium of the Supreme Attestation Commission under the Ministry of Higher Education, Science and Innovation of the Republic of Uzbekistan, this journal is included in the list of recommended international scientific publications for publishing the primary research findings of doctoral dissertations in the field of Economic Sciences.

Partners: Tashkent State University of Economics / American University of Technology in Tashkent (AUT)

Electronic publication, Issue 5. 374 pages.
Approved for publication on Iyun, 2026.

Editorial Board Members:

CONTENTS

ANALYSIS OF THE MAIN STATISTICAL INDICATORS OF LABOR RESOURCE UTILIZATION IN SURXONDARYO REGION

Haydarova Dinora Atamurot qizi
Doctoral (PhD) researcher, Termez State University
Email: dinara.haydarova.14@gmail.com
ORCID: 0009-0007-3921-9658

Abstract: This article presents a dynamic analysis of the main statistical indicators related to labor resources in the Surxondaryo region. The study employs dynamic series indicators such as absolute change, growth rate, and additional growth rate, which were calculated using both base and chain methods. The analysis examines important economic indicators, including total population, labor resources, average wages, investment volume, employment, and unemployment rates. Through dynamic analysis, the trends in labor market indicators over time were identified, and their impact on the economic development of the region was assessed. The results of the study serve as a basis for developing scientific and practical recommendations aimed at improving the efficiency of labor resource utilization, stimulating employment, ensuring stability in the labor market, and supporting the socio-economic development of the region.

Key words: labor resources, dynamic analysis, statistical indicators, employment, unemployment, average wages, base method, chain method.

Аннотация: В данной статье представлен динамический анализ основных статистических показателей, связанных с трудовыми ресурсами Сурхандарьинской области. В исследовании использованы показатели динамических рядов, такие как абсолютное изменение, темп роста и темп прироста, рассчитанные базисным и цепным методами. В ходе анализа были изучены важнейшие экономические показатели, включая общую численность населения, численность трудовых ресурсов, среднюю заработную плату, объем инвестиций, уровень занятости и безработицы. С помощью динамического анализа выявлены тенденции изменения показателей рынка труда во времени, а также оценено их влияние на экономическое развитие региона. Результаты исследования служат основой для разработки научных и практических рекомендаций, направленных на повышение эффективности использования трудовых ресурсов, стимулирование занятости, обеспечение стабильности на рынке труда и поддержку социально-экономического развития региона.

Ключевые слова: трудовые ресурсы, динамический анализ, статистические показатели, занятость, безработица, средняя заработная плата, базисный метод, цепной метод.

INTRODUCTION

One of the key factors playing an important role in the economic growth of each region is labor resources, and the issue of their efficient utilization remains one of the major tasks. The continuous growth of the population in the region leads to an increase in the number of labor resources. As a result, it becomes necessary to ensure employment, create new jobs, and effectively utilize the economically active population. Since labor market indicators change over time through growth or decline trends, there arises a need to evaluate them based on dynamic analysis.

Time series analysis is considered one of the main statistical methods for assessing the state of labor resource utilization, identifying existing problems, and forecasting future changes. Scientific literature also widely highlights this type of analysis, emphasizing that dynamic series make it possible to assess the level of change in phenomena and processes over time, identify and quantitatively evaluate the main development trends, as well as carry out forecasting and extrapolation. This study is aimed at analyzing statistical data related to labor resource indicators through dynamic analysis methods.

REVIEW OF LITERATURE ON THE SUBJECT

The study of labor resources and their efficient utilization is considered one of the most relevant and widely researched areas of economic studies. Representatives of various economic schools have theoretically and empirically analyzed the factors affecting labor resources and their role within the economic system.

Representatives of the classical economic school – Adam Smith, David Ricardo, and William Petty – considered labor as the main source of social wealth, emphasizing that material wealth is created through labor activity and that economic development is ensured by labor [2]. French economist Jean-Baptiste Say became well known for his theory of the three factors of production, in which labor was identified as the primary factor.

English economist John Maynard Keynes, in his work "The General Theory of Employment, Interest and Money," proposed the idea of regulating national income through taxation in order to ensure full employment. Ekaterina S. Dashkova and Natalia V. Dorokhova used economic-statistical and content analysis methodological approaches to assess the regional labor market. In their research, a complex index method was applied to evaluate the internal and external parameters of the labor market [4].

Mincer (1974) analyzed the relationship between income and the labor market through econometric modeling and demonstrated that years of education and work experience have a direct positive impact on income. His model is still widely used in empirical research today [1].

Scientists such as Shchepakin M.B., Krivosheyeva E.V., Mikhaylova V.M., and Kurenova D.G., who conducted research on evaluating the efficiency of enterprise labor resource utilization and their effective management during economic crises, proposed an integral index for assessing labor resource utilization efficiency. Based on the indicators included in the index, an algorithm for labor resource management was developed [3].

RESEARCH METHODOLOGY

This study analyzes the main indicators assessing the condition of the labor market, including total population, labor resources, the number of employed and unemployed people, employment and unemployment rates, average wages, and investment volume. The main objective of the research is to identify trends in labor market indicators over time.

For the analysis, data obtained from the Statistics Department of Surxondaryo region were used. In particular, statistical data for the period 2016–2025 related to total population, labor resources, the number of employed and unemployed people, employment and unemployment rates, average wages, and investment volume were examined to assess the condition of the regional labor market. During the research process, dynamic series analysis methods were applied, and indicators such as absolute change, growth rate, and additional growth rate were calculated using both base and chain methods.

ANALYSIS AND RESULTS

This section presents the dynamics of labor resource indicators developed within the framework of the study. Based on the results of the analysis, the trends in total population, labor resources, employment and unemployment rates, average wages, and investment volume over the years were identified. In addition, the impact of changes in labor market indicators on the economic development of the region was assessed (Table 1).

Table 1.
Analysis of the Dynamics of Key Labor Market Indicators in Surxondaryo Region for 2016–2025[1]

Years	Total population (thousand persons)	Absolute change		Growth rate		Additional growth rate	
		Base method	Chain method	Base method	Chain method	Base method	Chain method
2016	2411.5			100.0			
2017	2462.3	50.8	50.8	102.1	102.1	2.1	2.1
2018	2514.2	102.7	51.9	104.3	102.1	4.3	2.1
2019	2569.9	158.4	55.7	106.6	102.2	4.4	2.2
2020	2629.1	217.6	59.2	109.0	102.3	4.6	2.3
2021	2680.8	269.3	51.7	111.2	102.0	4.3	2.0
2022	2743.2	331.7	62.4	113.8	102.3	4.3	2.3
2023	2806.5	395.0	63.3	116.4	102.3	4.7	2.3
2024	2877.1	465.6	70.6	119.3	102.5	4.9	2.5
2025	2945.5	534.0	68.4	122.1	102.4	5.0	2.4

1 Calculated by the author based on data from the Statistics Department of Surxondaryo Region

INTERNATIONAL SCIENTIFIC ELECTRONIC JOURNAL

	Labor resources (thousand persons)						
2016	1403.1			100.0			
2017	1423.9	20.8	20.8	101.5	101.5	1.5	1.5
2018	1442.7	39.6	18.8	102.8	101.3	2.8	1.3
2019	1456.9	53.8	14.2	103.8	101.0	3.8	1.0
2020	1452.2	49.1	-4.7	103.5	99.7	3.5	-0.3
2021	1464.6	61.5	12.4	104.4	100.9	4.4	0.9
2022	1465.4	62.3	0.8	104.4	100.1	4.4	0.1
2023	1486	82.9	20.6	105.9	101.4	5.9	1.4
2024	1515.8	112.7	29.8	108.0	102.0	8.0	2.0
2025	1531.4	128.3	15.6	109.1	101.0	9.1	1.0
	Average wages (in thousand UZS)						
2016		-	-				
2017	1063.0	-	-	100.0			
2018	1301.3	238.3	238.3	122.4	122.4	22.4	22.4
2019	1609.7	546.7	308.4	151.4	123.7	51.4	23.7
2020	1825.8	762.8	216.1	171.8	113.4	71.8	13.4
2021	2083.0	1020.0	257.2	196.0	114.1	96.0	14.1
2022	2530.2	1467.2	447.2	238.0	121.5	138.0	21.5
2023	2958.4	1895.4	428.3	278.3	116.9	178.4	16.9
2024	3262.9	2199.9	304.5	307.0	110.3	207.0	10.3
2025	4481.8	3418.8	1218.9	421.6	137.4	321.6	37.4
	Investment volume (in billion UZS)						
2016	2142.4			100.0			
2017	3551	1408.6	1408.6	165.7	165.7	65.7	65.7
2018	7240.6	5098.2	3689.6	338.0	203.9	238.7	103.9
2019	11835.1	9692.7	4594.5	552.4	163.5	452.4	63.5
2020	10068.2	7925.8	-1766.9	469.9	85.1	369.9	-14.9
2021	12037.8	9895.4	1969.6	561.9	119.6	461.9	19.6
2022	11569.4	9427.0	-468.4	540.0	96.1	440.0	-3.9
2023	18307.7	16165.3	6738.3	854.5	158.2	754.5	58.2
2024	16593.1	14450.7	-1714.6	774.5	90.6	674.5	-9.4
2025	22 758.4	20616.0	6165.3	1062.3	137.2	962.3	37.2

The analysis shows that the dynamics of indicators affecting labor resources in Surxondaryo region during 2016–2025 demonstrated a steady growth trend. In particular, while the total population amounted to 2,411.5 thousand people in 2016, this figure reached 2,945.5 thousand people by 2025. As a result, the base growth rate amounted to 122.1 percent. A significant increase was especially observed in the average monthly wage indicator, which rose from 1,063 thousand UZS in 2017 to 3,418.8 thousand UZS by 2025, representing an additional growth of 321.6 percent compared to the base year. Although the investment volume also demonstrated a generally positive trend compared to the base period, fluctuations in growth and decline were observed during 2020–2024. It should be noted that the decline in 2020 was associated with the pandemic conditions and the decrease in economic activity. Despite another decline observed in 2022, a sharp increase was recorded in 2023, when the investment volume reached 18,307.7 billion UZS due to increased investments directed toward new industrial projects, construction, and service sectors. In general, investment volume directly affects such indicators as economic activity, production volume, job creation, employment level, and labor productivity. Therefore, increasing investment volume is considered one of the key factors in improving the efficient utilization of labor resources (Table 2; 3).

Table 2.

Dynamics of the Number of Employed Population and Employment Rate in Surxondaryo Region[2]

Years	Number of employed persons	Absolute change		Growth rate		Additional growth rate		Employment rate
		Base method	Chain method	Base method	Chain method	Base method	Chain method	
2016	961.5			100.0				65.4
2017	991.7	30.2	30.2	103.1	103.1	3.1	3.1	66.6
2018	984	22.5	-7.7	102.3	99.2	2.3	-0.8	65.2
2019	1024.2	62.7	40.2	106.5	104.1	6.5	4.1	67
2020	985.5	24.0	-38.7	102.5	96.2	2.5	-3.8	63.9
2021	1001.9	40.4	16.4	104.2	101.7	4.2	1.7	64.5
2022	1006.3	44.8	4.4	104.7	100.4	4.7	0.4	64.2
2023	1011.2	49.7	4.9	105.2	100.5	5.2	0.5	63.8
2024	1024.9	63.4	13.7	106.6	101.4	6.6	1.4	63.7
2025	1057.6	96.1	32.7	110.0	103.2	10.0	3.2	64.8

Table 3.
Dynamics of the Number of Unemployed Population and Unemployment Rate in Surxondaryo Region[3]

Years	Number of unemployed persons	Absolute change		Growth rate		Additional growth rate		Unemployment rate
		Base method	Chain method	Base method	Chain method	Base method	Chain method	
2016	56.8			100.0				5,6
2017	71	14.2	14.2	125.0	125.0	25.0	25.0	6,7
2018	105.3	48.5	34.3	185.4	148.3	85.4	48.3	9,7
2019	104.6	47.8	-0.7	184.2	99.3	84.2	-0.7	9,3
2020	122.8	66.0	18.2	216.2	117.4	116.2	17.4	11,1
2021	113.9	57.1	-8.9	200.5	92.8	100.5	-7.2	10,2
2022	103.6	46.8	-10.3	182.4	91.0	82.4	-9.0	9,3
2023	80.6	23.8	-23.0	141.9	77.8	41.9	-22.2	7,4
2024	64.6	7.8	-16.0	113.7	80.1	13.7	-19.9	5,9
2025	54.7	-2.1	-9.9	96.3	84.7	-3.7	-15.3	4,9

According to the table data, the number of employed people steadily increased during 2016–2025, and by 2025 the base growth rate of this indicator had reached 110 percent. During the study period, the employment rate in the region was formed within the range of 63–67 percent, indicating a relatively stable trend while also showing sensitivity to external economic factors in the years when declines were observed.

It was identified that the number of unemployed people demonstrated a fluctuating trend throughout the analyzed period. Starting from 56.8 thousand people in the initial year, the figure increased to 122.8 thousand by 2020, reaching a base growth rate of 216.2 percent and representing the highest result during the analysis period. However, in the following years, a declining trend in unemployment was observed as a result of the creation of new jobs, increased investment activity, the development of the service and entrepreneurship sectors, and the effectiveness of employment programs. The unemployment rate decreased from 5.6 percent to 4.9 percent, indicating a gradual improvement in the utilization of labor resources.

CONCLUSION AND SUGGESTIONS

The results of the study showed that positive changes in labor market indicators were observed in Surxondaryo region during 2016–2025. In particular, the steady growth in total population and labor resources indicates the increasing labor potential of the region. At the same time, the growth of the economically active population increases the need for creating new jobs and ensuring the efficient utilization of labor resources.

2 Calculated by the author based on data from the Statistics Department of Surxondaryo Region
3 Calculated by the author based on data from the Statistics Department of Surxondaryo Region

The analysis revealed a stable growth trend in the number of employed people and average wage indicators. This situation can be explained by the increase in economic activity in the region, the expansion of investment processes, and the development of the service and entrepreneurship sectors. In addition, it was identified that the growth in investment volume has a direct positive impact on labor market indicators.

However, the study also found that in certain years, especially during the pandemic period, there was a sharp increase in the number of unemployed people and a decline in investment volume. This indicates that the labor market is sensitive to external economic factors. In the following years, due to the creation of new jobs and the implementation of employment programs, the unemployment rate showed a declining trend.

Based on the results of the study, the following recommendations were developed:

1. It is necessary to expand investment projects aimed at creating new jobs in the region.
2. It is advisable to increase employment by supporting small businesses and private entrepreneurship.
3. The system of training and retraining qualified personnel in accordance with labor market requirements should be developed.
4. It is necessary to increase labor productivity by attracting investments into the service, industrial, and agricultural sectors.
5. It is advisable to improve the system of regular monitoring and forecasting of labor market indicators based on dynamic analysis.

In general, the efficient utilization of labor resources is considered one of the key factors in ensuring the sustainable socio-economic development of the region.

REFERENCES:

1. Mincer, J. (1974) Schooling, Experience, and Earnings. Columbia University Press, New York.
2. Q. Yo'ldoshev, Q. Muftaydinov, V. Abdurahmonov, *History of Economic Doctrines*: Textbook. – Tashkent: "IQTISOD-MOLIYA", 2006.
3. Щепакин Михаил Борисович, Кривошеева Екатерина Васильевна, Михайлова Вероника Михайловна, Куренова Дария Геннадиевна Оценка эффективности использования трудовых ресурсов предприятия // Практический маркетинг. 2016.
4. Ekaterina S. Dashkova, Natalia V. Dorokhova Regional labour market: A method for research // Journal of New Economy 2023.
5. Gujarati, D.N. and Porter, D.C. (2009) Basic Econometrics. 5th Edition, McGraw Hill Inc., New York.

Proofreader: Xondamir Ismoilov

Layout and Designer: Hasan Maqsudov

2026. № 6

To publish articles in this journal, you may submit articles, advertisements, stories, and other creative materials through the following links. Materials and advertisements are published on a paid basis.

You may subscribe to the journal at any time using the following details. Once subscribed, please send a screenshot or photo of your payment confirmation to our Telegram page @iqtisodiyot_77. Based on this, we will send the latest issue of the journal to your address each month.

Our address: Tashkent city, Yunusobod district, 19th block, House 17.