



TRENDS AND STATISTICAL ANALYSIS OF INDUSTRIAL DEVELOPMENT IN SURKHANDARYA REGION

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Article history:	Abstract:
Received: 14 th March 2026 Accepted: 11 th April 2026	This article examines the development trends of the industrial sector in Surkhandarya Region, the structure of its industrial branches, and their share in the overall industrial output of the region. It also provides a detailed analysis of the state and composition of industrial production. In addition, the volume of industrial production per capita and its growth dynamics are thoroughly analyzed using statistical methods. Based on the results of the regional industrial statistical analysis, proposals have been developed to further enhance industrial development in the region.

Keywords: Industrial sector, industrial products, consumer goods, growth trend, gross regional product (GRP), statistical analysis.

INTRODUCTION

In the context of globalization, implementing profound structural transformations in industry the key sector of the economy has become increasingly important. Enhancing the role of innovation-driven factors, reducing production costs, diversifying high-tech products, and establishing production facilities based on modern technologies have emerged as strategic priorities for sustainable economic development. Comprehensive reforms are being carried out across all regions of the Republic to promote industrial production, deepen the localization of manufacturing processes, and strengthen the export potential of domestic producers. These measures are aimed at increasing industrial competitiveness, ensuring efficient utilization of local resources, and accelerating regional economic growth.

Undoubtedly, improving the effectiveness of these reforms and formulating promising strategies for industrial development require scientifically grounded approaches. In particular, the introduction of market-based mechanisms for managing regional economies through the analysis and forecasting of economic indicators at the meso level plays a crucial role. Development strategies for various sectors are increasingly being designed with due consideration of the condition of the real sector, domestic and international market conditions, as well as global and regional economic development trends.

At present, a number of practical challenges remain regarding the development of modern indicators for assessing economic processes and the effective application of scientific findings in economic management. These challenges highlight the growing need for reliable statistical tools capable of providing an

objective evaluation of socioeconomic development processes.

Therefore, systematic efforts are being undertaken in Uzbekistan to improve the quality and reliability of statistical information and to ensure the objective representation of ongoing socioeconomic developments in the publications and databases of international organizations. In this regard, the Resolution of the President of the Republic of Uzbekistan No. PQ-4796, dated August 3, 2020, "On Measures to Further Improve and Develop the National Statistical System of the Republic of Uzbekistan" [1], marked a new stage in addressing these issues and strengthening the national statistical framework.

For the sustainable socioeconomic development of the country, there is an increasing need to comprehensively study and statistically analyze the development trends of the economy, particularly regional industrial sectors. Such analyses serve as an essential basis for developing scientifically substantiated proposals and recommendations aimed at further enhancing industrial development and improving the efficiency of regional economic policy.

LITERATURE REVIEW

A number of scientific studies have been conducted on the statistical analysis of industrial development trends and the scientific substantiation of new directions for sustainable industrial growth. In particular, B.B. Berkinov investigated the development of the economy's basic sectors and the analysis of regional innovation projects [2]. Likewise, B.B. Salimov examined the volume, share, and growth dynamics of industrial production in regions, industrial output per capita, comparative analyses of regional and national



indicators, and priority development tasks for individual regions [3].

Furthermore, A. Qosimov [4] and S. Khomidov [5] conducted research aimed at improving indicators and criteria for assessing the economic potential of industrial sectors, analyzing the impact of various factors on development trends, and modeling production processes.

In addition, A.U. Burkhanov [6] studied the methodological aspects of industrial enterprise development based on technical and technological modernization. The prospects for industrial development and approaches to their statistical assessment were investigated by V.V. Glinsky, L.K. Serga, Yu.N. Ismayilova, and K.A. Zaikov [7].

Among foreign scholars, Sunita Chitkara and Charvi Nagpal [8] conducted a quantitative analysis of the relationship between the development of manufacturing sectors and public infrastructure. Similarly, Shyam Upadhyaya and Petra Kynclova [9] examined the growing relevance of Big Data and its implications for industrial statistics.

Studies on the determinants of industrial development were carried out by Z. Maroof, S. Hussain, M. Jawad, and M. Naz [10], while global trends in industrial development were analyzed by G.A. Fuentes Barrera, X.G. Durany, J.R. Pons, and J.G. Guerrero Erazo [11]. Moreover, M. Shamsuzzaman, A. Shamsuzzoha, A. Maged, S. Haridy, H. Bashir, and A. Karim [12], as well as A. Montazeri, M.H. Ansarizadeh, and M.M. Arefi [13], explored statistical observation methods for industrial production processes and developed data-driven statistical approaches for monitoring and analysis.

In our view, the scientifically grounded analysis and planning of industrial production, as well as the assessment and management of its efficiency, should primarily focus on the meso- and macro-levels rather than the mega- and meta-levels. Accordingly, industrial development should be investigated at the level of national regions, supported by comprehensive statistical analysis and data processing techniques, in order to formulate evidence-based prospects and strategies for regional industrial development.

RESEARCH METHODOLOGY

The study employed a range of research methods, including expert evaluation, grouping, comparison, system analysis, and the use of statistical tables and diagrams. In addition, the research was based on official statistical data obtained from the National Statistics Committee of the Republic of Uzbekistan and the Statistics Department of Surkhandarya Region. Relevant studies conducted by both foreign and

domestic scholars on the subject were also utilized as important sources of information and methodological guidance.

ANALYSIS AND RESULTS

In recent years, the industrial sector of Uzbekistan has demonstrated a stable growth trajectory, accompanied by significant changes in its regional structure.

In particular, the volume of industrial production in the country increased from UZS 38,119 billion in 2010 to UZS 880,198.5 billion in 2024. This indicates that industrial output expanded by nearly 23 times during the period under review. Such growth can be attributed to industrial modernization, the commissioning of new production capacities, increased investment activity, and the enhanced effectiveness of regional industrial policies.

A regional analysis reveals that the highest industrial potential has been concentrated in Navoi Region. While industrial production in the region amounted to UZS 4,038.5 billion in 2010, it reached UZS 145,615 billion by 2024. The sharp acceleration in growth observed after 2018 can largely be associated with major investment projects implemented in the mining and metallurgical, chemical, and energy sectors.

Tashkent City has also remained one of the principal drivers of the country's industrial development. Its contribution to national industrial output has remained substantial throughout the entire period. Industrial production increased from UZS 6,984.4 billion in 2010 to UZS 171,706.2 billion in 2024. This performance is largely explained by the high concentration of high-tech manufacturing enterprises, machinery production, electrical engineering industries, and pharmaceutical companies in the capital.

Similarly, Tashkent Region experienced rapid industrial expansion. Industrial output grew from UZS 5,471.2 billion at the beginning of the period to UZS 138,555.4 billion in 2024. The region's close integration with the capital's economy, well-developed transport and logistics infrastructure, and the expansion of industrial zones have been among the key drivers of this growth. Andijan Region also recorded strong growth dynamics, with industrial production increasing from UZS 4,701.4 billion to UZS 90,626.6 billion during the study period. In particular, the development of the automotive industry and related industrial cooperation networks significantly enhanced the region's economic activity.

Positive industrial trends were likewise observed in Bukhara, Kashkadarya, and Samarkand regions. Industrial output increased by more than 25 times in Bukhara Region, nearly 27 times in Kashkadarya Region, and over 22 times in Samarkand Region. The



development of oil and gas industries, construction materials production, food processing, and light manufacturing played an important role in supporting industrial growth in these regions.

Regions with relatively low initial industrial bases exhibited even higher growth rates. For example, industrial production in Jizzakh Region increased from UZS 522.7 billion to UZS 24,903.7 billion, while in

Syrdarya Region it rose from UZS 926.8 billion to UZS 20,064.5 billion. Positive industrial development dynamics were also observed in the Republic of Karakalpakstan, where industrial output expanded from UZS 697.2 billion to UZS 24,323.5 billion. Although growth rates were considerable, the concentration of industrial activity in the republic remains below the national average.

Table 1

Volume of Industrial Production in Uzbekistan, billion UZS

	2010	2012	2014	2016	2018	2020	2022	2024
Republic of Uzbekistan	38119	57552,5	84011,6	111869,4	235340,7	368740,2	553265	880198,5
Republic of Karakalpakstan	697,2	1034,2	1717,2	4265,7	10911,9	13981,3	17624,7	24323,5
Andijan region	4701,4	6934,9	10463,2	7965,7	27454,7	36376,5	54352,5	90626,6
Bukhara region	1674,8	2457,8	3972,6	5569,6	8601,2	17574,4	27202,4	42243,7
Jizzakh region	522,7	785,7	1195,8	2001,2	3581,8	5823,8	11402	24903,7
Kashkadarya region	4957,5	6076,4	7194,7	9632,2	14529,5	14612,3	22624,4	39116,8
Navoi region	4038,5	5761,1	8238,9	10657,9	22892,4	65084,9	84393,7	145615
Namangan region	1007	1615,6	2315,2	3475,7	6586,6	11011,9	18120,5	31696,2
Samarkand region	2011,2	3222	4966,4	7446	13488,1	18383,4	29188,6	45408
Surkhandarya region	756,4	1101,8	1615,3	2200,7	3234,7	5322,7	7229,8	13819,8
Syrdarya region	926,8	1528,1	2363,1	3522,3	5163,1	7990,9	12011,2	20064,5
Tashkent region	5471,2	8112,1	12474,6	16864,7	37724,4	65949,9	93935,1	138555,4
Fergana region	3265,5	4596,9	6596,4	8040,7	13613,8	21701,2	30303,5	45896,1
Khorezm region	628,6	1014,2	1920,8	2802,7	6457,2	9615,9	18323,3	28438,8
Tashkent city	6984,4	12516,4	15468,5	23511,9	43274,1	66188	108807,7	171706,2

Source: Data from the National Statistics Committee of the Republic of Uzbekistan [14].

The results of the analysis also indicate that a certain degree of disparity in industrial development remains across regions. On the one hand, industrial production is highly concentrated in regions such as Navoi Region, Tashkent City, Tashkent Region, and Andijan Region. On the other hand, production volumes remain relatively low in Syrdarya, Jizzakh, and Khorezm regions. This situation highlights the need to further improve regional industrial policy, ensure a more balanced distribution of investments, and strengthen economic infrastructure development.

Overall, it can be observed that during 2010-2024, Uzbekistan's industrial sector gradually transitioned from an extensive growth model toward a stage of industrial development characterized by an increasing share of industries generating higher value-added products. Regional dynamics demonstrate that the industrialization process has expanded to almost all parts of the country; however, the territorial concentration of industrial potential remains relatively high. Consequently, reducing structural disparities

among regions will continue to be one of the key strategic priorities for sustaining industrial growth in the future.

Among the regions of the country, Surkhandarya Region has been one of the territories demonstrating relatively high industrial growth rates in recent years.

An examination of industrial production across the cities and districts of Surkhandarya Region during 2010-2024 provides an opportunity to assess the changes that have occurred in industrial activity over time. The results indicate that industrial development has not progressed uniformly across all districts. While several districts have emerged as important growth centers, industrialization has advanced at a comparatively slower pace in others. In general, the volume of industrial production in Surkhandarya Region increased from UZS 756.4 billion in 2010 to UZS 13,819.8 billion in 2024. Thus, industrial output expanded by approximately 18.3 times during the study period, reflecting the growing importance of industrial activities within the regional economy. At the



same time, growth dynamics varied considerably across districts.

Termez City has maintained its position as one of the principal industrial centers of the region. Industrial production increased from UZS 92.5 billion in 2010 to UZS 1,388.5 billion in 2024. The acceleration of growth observed after 2018 can largely be attributed to the expansion of service-oriented industries, construction materials production, and processing enterprises.

Among the districts, Denov District recorded the highest industrial performance. Industrial production increased from UZS 95.3 billion to UZS 1,265.1 billion during the period under review. The development of agro-industrial complexes, food-processing industries, and small industrial zones has been one of the key factors stimulating economic activity in the district.

Jarkurgan District also demonstrated strong growth performance. Industrial production increased from UZS 132.7 billion to UZS 1,244.1 billion, representing an approximately 9.4-fold increase over the study period. The establishment of new production facilities and the expansion of local raw-material processing capacities contributed positively to this outcome.

Industrialization also intensified significantly in Sherabad and Shurchi districts. In Sherabad District, industrial production increased from UZS 64.8 billion to UZS 1,204.5 billion, while in Shurchi District it rose from UZS 82.7 billion to UZS 1,096 billion. The expansion of industrial infrastructure and increasing private

investment activity have played a significant role in supporting industrial growth in these districts.

Sariosiyo District was among the territories exhibiting the highest dynamic growth. Industrial output increased from UZS 43.1 billion in 2010 to UZS 953.9 billion in 2024. Nevertheless, noticeable fluctuations were observed during certain years, suggesting that the industrial structure of the district has not yet achieved full diversification.

Kumkurgan District also experienced substantial growth, with industrial production increasing from UZS 44.8 billion to UZS 857.8 billion. The acceleration in growth after 2020 indicates a significant expansion of production capacities within the district.

Although positive trends were also observed in Termez District, Uzun District, and Kizirik District, their absolute production volumes remained lower than those recorded in Denov, Jarkurgan, and Sherabad districts. This can be explained by differences in the geographical distribution of industrial facilities and the uneven allocation of investment resources.

The case of Bandikhan District deserves particular attention. Industrial production was virtually absent in official statistics until 2020; however, the indicator increased rapidly in subsequent years, reaching UZS 381.8 billion by 2024. This suggests that although industrialization began relatively late in the district, it has recently entered a phase of active development.

Table 2

Volume of Industrial Production in Surkhandarya Region, billion UZS

	2010	2012	2014	2016	2018	2020	2022	2024
Termiz city	92,5	152,9	218	362,5	547,4	1194,4	1242,6	1388,5
Altynsay district	13,3	18,4	25,9	71,8	59,2	125	161,6	305,2
Angor district	38,8	52,1	80,2	96,9	96,9	90,9	144,4	633,2
Bandykhan district	0	0	0	0	0	7,1	129,3	381,8
Baysun district	18,5	26,3	40	48,8	58,4	84,5	108,7	223,7
Muzrabad district	45,6	53,8	70,2	75,5	71,7	182,7	254,5	377,2
Denau district	95,3	139,3	201,1	324,7	431	839	424,8	1265,1
Jarkurgan district	132,7	206,1	290,3	383,8	666,8	933,8	1035,7	1244,1
Kumkurgan district	44,8	60,2	93,4	148,5	202,2	350,1	626	857,8
Kizirik district	41	54,4	75,6	77,3	115,5	155,5	209,2	428,5
Sariosia district	43,1	59,2	106	134,9	248,6	266,2	783,2	953,9
Termiz district	16,4	30,7	53	68,7	109,9	114,5	387,5	757,6
Uzun district	27,1	41,1	66,3	84,2	120	95	325,8	294,8
Sherabad district	64,8	78,5	112,8	95,9	154,2	419,3	582,7	1204,5
Shurchi district	82,7	128,6	182,6	227,3	352,9	464,7	813,6	1096
Total	756,4	1101,8	1615,3	2200,7	3234,7	5322,7	7229,8	13819,8

Source: Data from the Statistics Department of Surkhandarya Region [15].

The findings indicate that the territorial structure of industrial production in Surkhandarya Region has

become increasingly diversified over time. Whereas economic activity was previously concentrated mainly in



a limited number of central locations, the growing contribution of individual districts in recent years suggests that industrial development is acquiring broader territorial coverage. At the same time, a significant share of industrial production remains concentrated in economically stronger areas such as Denov District, Jarkurgan District, Termez City, Sherabad District, and Shurchi District.

In conclusion, industrial development in Surkhandarya Region demonstrated a stable positive trend during 2010-2024, with growth accelerating considerably after 2018. This process reflects the increasing role of industrial sectors within the regional economy and the emergence of new drivers of regional economic growth. To ensure a more balanced pattern of industrial development in the future, it is important to strengthen investment activity in districts with relatively low industrial shares, expand the deep processing of local raw materials, and increase the number of enterprises producing high value-added products.

Furthermore, the available data make it possible to evaluate both the volume of industrial production per capita and its growth dynamics in Surkhandarya Region. This indicator represents one of the key measures reflecting the impact of industrial development on the regional economy and the welfare of the population. The absolute growth of industrial output does not always imply greater economic efficiency; when changes in population size are taken into account, industrial production per capita provides a more accurate representation of the region's actual industrial potential.

According to the analysis, industrial production per capita in Surkhandarya Region increased from UZS 355.9 thousand in 2010 to UZS 4,746.9 thousand in 2024. Thus, the indicator grew by approximately 13.3 times during the study period. This trend suggests that industrial production expanded at a faster rate than

population growth and that the contribution of industry to overall economic activity has become increasingly significant.

An examination of the dynamics reveals that industrial production per capita followed a relatively stable growth trajectory between 2010 and 2017. During this period, the indicator increased from UZS 355.9 thousand to UZS 947 thousand. Growth was largely driven by the modernization of existing production capacities and the expansion of industrial enterprises operating within the region.

Beginning in 2018, a new phase of growth became evident. Industrial production per capita amounted to UZS 1,272.4 thousand in 2018 and reached UZS 4,746.9 thousand by 2024. In other words, the indicator increased by approximately 3.7 times over the last seven years. This development may be associated with increased investment inflows into the industrial sector, the establishment of new enterprises, and the expansion of processing industries.

The analysis of growth rates also provides valuable insights. During 2010–2024, the annual growth rate of industrial production per capita generally ranged between 101 and 109 percent. The highest growth rate was recorded in 2014, when the indicator reached 108.7 percent. Similarly, the growth rate amounted to 107.4 percent in 2021. These figures indicate that industrial production expanded at a faster pace than population growth during those years.

A slowdown in growth was observed in certain years. For example, the growth rate declined to 95.9 percent in 2017, indicating a temporary reduction in industrial production per capita. However, this decline was subsequently overcome, and the upward trend resumed in the following years. This suggests that the regional industrial system possesses a certain degree of resilience and adaptability to both internal and external economic changes.

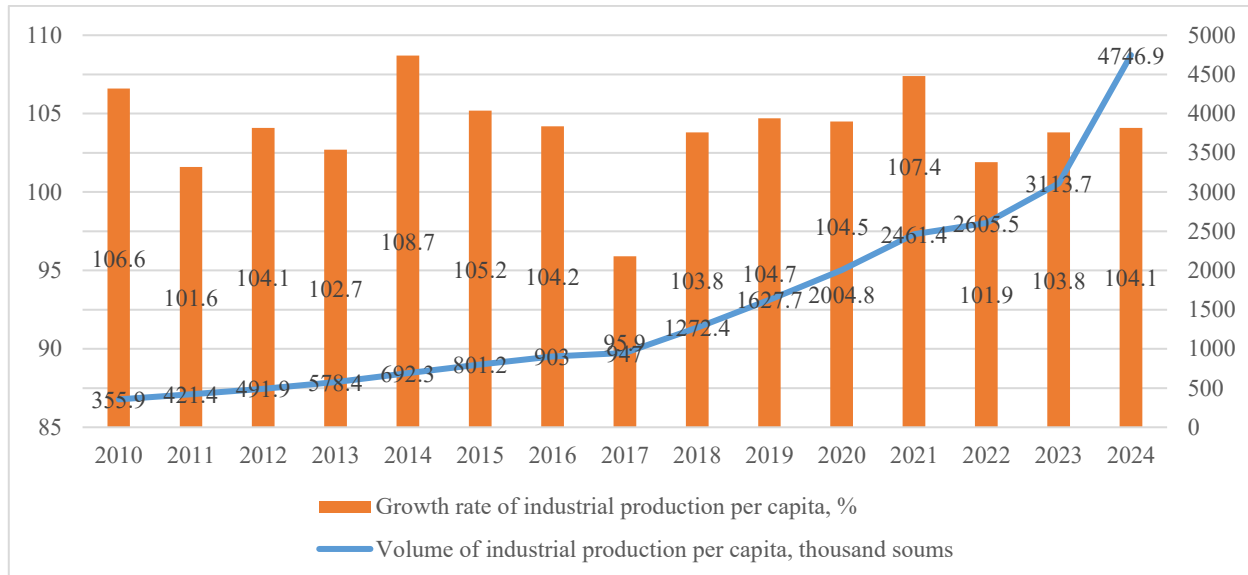


Figure 1. Industrial Production per Capita and Its Growth Rate in Surkhandarya Region

Source: Data from the Statistics Department of Surkhandarya Region [15].

During the period 2020-2024, industrial development in Surkhandarya Region gained particular significance. During this stage, industrial production per capita increased from UZS 2,004.8 thousand to UZS 4,746.9 thousand. The 2.4-fold increase recorded within five years indicates the strengthening of intensive factors of industrial development. This growth was largely supported by improvements in production efficiency, an increasing share of high value-added products, and the enhancement of industrial infrastructure throughout the region.

Overall, the results of the analysis demonstrate that industrial development in Surkhandarya Region has progressed at a faster pace than population growth. The consistent increase in industrial production per capita confirms the strengthening of the region's industrial potential, the expanding contribution of industry to economic activity, and the growing capacity to generate value added within the regional economy. At the same time, maintaining the sustainability of this growth in the future will require the expansion of high-technology manufacturing activities, deeper processing of local raw materials, and the implementation of measures aimed at improving labor productivity.

CONCLUSION

Based on the analysis of development trends and the structural statistical assessment of industrial sectors in Surkhandarya Region, the following considerations are recommended for determining the prospects of further industrial development:

1. The structure of the region's Gross Regional Product (GRP) is characterized by a relatively high share of agricultural output and a comparatively low share of industrial production. This indicates the availability of abundant and relatively inexpensive agricultural raw materials for processing activities. Therefore, priority should be given to the accelerated development of agro-processing industries in the region.
2. Considering the region's significant tourism potential and its favorable logistics infrastructure for access to both domestic and international markets, promotional activities aimed at attracting foreign investors should be intensified in order to further stimulate industrial development.
3. Existing industrial enterprises should be modernized and diversified, while comprehensive support should be provided for the production of high-technology and value-added products.
4. Taking into account the socioeconomic conditions of the region, financing mechanisms through banks and other financial sources should be expanded to facilitate the establishment of new production capacities based on advanced technologies.
5. The development of digital technologies should be utilized to improve online industrial product marketplaces, enhance their efficiency, and



expand their integration into international markets.

In conclusion, the economic reforms currently being implemented in the industrial sector of Uzbekistan have demonstrated a high level of effectiveness, which is clearly reflected in the structural transformations observed in the industrial sectors of Surkhandarya Region in recent years. However, these achievements do not imply that the region has fully realized its industrial potential. Similar to many other regions of the country, the effective mobilization of existing opportunities remains a critical priority for further industrial development.

In particular, it is necessary to increase the volume of bank lending and other financial support directed toward industrial enterprises, accelerate production localization processes, expand intersectoral industrial cooperation and structural transformation initiatives, modernize and actively diversify leading industries, promote industrial exports, and continue implementing consistent measures aimed at supporting domestic producers. The successful realization of these priorities will contribute to strengthening the region's industrial competitiveness and ensuring sustainable long-term economic growth.

REFERENCES

1. Resolution of the President of the Republic of Uzbekistan No. PQ-4796 dated August 3, 2020, "On Measures to Further Improve and Develop the National Statistical System of the Republic of Uzbekistan."
2. Berkinov, B.B. (2011). Trends and Prospects of Socio-Economic Development in Uzbekistan. *Economics and Innovative Technologies: Scientific Electronic Journal*, No. 1, September 2011, pp. 1-16.
3. Salimov, B.B. (2018). Comparative Analysis of Industrial Production across Regions and Priority Directions for Its Development. *Economics and Innovative Technologies: Scientific Electronic Journal*, No. 3, May-June 2018, pp. 1-9.
4. Qosimov A. A. Analysis of state development programs (on the example of Surkhandarya Region) // *Theoretical & Applied Science*. – 2019. – T. 11. – C. 115-120.
5. Khomidov, S.O. (2018). Modeling Industrial Development Trends (The Case of the Republic of Uzbekistan). Abstract of the Doctor of Philosophy (PhD) Dissertation in Economics. Tashkent: Tashkent State University of Economics (TSUE), pp. 13-21.
6. Burkhanov, A.U. (2015). Methodological Aspects of Industrial Enterprise Development Based on Modernization, Technical and Technological Renewal. *Economics and Innovative Technologies: Scientific Electronic Journal*, No. 5, September-October 2015, pp. 1-11.
7. Glinsky, V.V., Serga, L.K., Ismayylova, Yu.N., & Zaikov, K.A. (2019). Statistical Study of the Prospects for the Development of the Food and Processing Industry in the Novosibirsk Region. In *Education and Entrepreneurship in Siberia: Directions of Interaction and Regional Development (Conference Proceedings, July 2019)*. Moscow: NSUEM Publishing House, pp. 81-84.
8. Sunita Chitkara, Charvi Nagpal. A Non-Parametric Index Number Approach to Investigate Linkages between Manufacturing Sector Development and Public Infrastructure // *The Journal of Industrial Statistics* (2017), 6 (1), 1-14 p.
9. Shyam Upadhyaya, Petra Kynclova. Big Data – Its relevance and impact on industrial statistics / *Inclusive and Sustainable Industrial Development Working Paper Series, WP 11, Vienna-2017, UNIDO*, 2-29 p.
10. Maroof Z., Hussain S., Jawad M. Naz M. Determinants of industrial development: a panel analysis of South Asian economies // *Quality & Quantity* 53(3), 2019, 1391–1419 p.
11. Fuentes Barrera G.A. et al. Trends in global research on industrial parks: A bibliometric analysis from 1996–2019 // *Heliyon* Vol.7 (2021) e07778, 1-14 p.
12. Shamsuzzaman M. et al. Effective monitoring of carbon emissions from industrial sector using statistical process control // *Applied Energy*, Vol. 300 (2021) 117352. 1-13 p.
13. Montazeri A., Ansarizadeh M.H., Arefi M.M. A data-driven statistical approach for monitoring and analysis of large industrial processes // *IFAC Papers OnLine*, Vol. 52, Iss.13 (2019), 2354-2359 p.
14. <https://stat.uz>
15. <https://www.surxonstat.uz>