



STATISTICAL ANALYSIS OF TEXTILE INDUSTRY DEVELOPMENT PROCESSES IN THE REGIONS

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Abstract: The textile industry is one of the strategically important sectors of Uzbekistan's economy. The country has significant potential for developing textile production due to its cotton resources, labor force, industrial infrastructure, and growing export opportunities. This thesis analyzes the main trends in the development of the textile industry across different regions of Uzbekistan. Particular attention is paid to production volumes, the number of enterprises, investment activity, employment, and export potential. Statistical analysis makes it possible to identify differences between regions, determine the factors influencing industrial development, and develop recommendations for improving the competitiveness of the textile sector.

Keywords: textile industry, regional development, statistical analysis, industrial production, exports, investment, employment, textile enterprises, economic development.

Introduction

The textile industry plays an important role in the economic development of Uzbekistan. Historically, the country has been one of the major producers of cotton, which provides an important raw material base for textile production. In recent years, the development of the textile sector has increasingly focused on processing raw materials domestically and producing finished and semi-finished products with higher added value.

Regional development of the textile industry is particularly important because industrial opportunities and economic conditions differ considerably across the country. Some regions have a strong raw-material base and a large number of textile enterprises, while others have greater potential for attracting investment and developing new production facilities.

Statistical analysis provides an effective method for assessing these differences. By examining production, employment, investment, and export indicators, it is possible to evaluate the current state of the textile industry and identify its main development trends.

The textile industry contributes to regional economic development in several important ways. First, it creates employment opportunities, particularly in regions where agriculture and light industry are major sources of income.





Second, textile enterprises stimulate the development of related industries, including cotton processing, transportation, logistics, packaging, and trade.

Another important advantage is the possibility of increasing the value of exported products. Instead of exporting raw cotton, the country can process it into yarn, fabrics, garments, and other finished products. This allows a larger share of the added value to remain within the domestic economy.

The development of textile clusters and modern production facilities can also encourage technological modernization. New enterprises often introduce automated equipment, modern management systems, and international quality standards.

A comprehensive statistical analysis of the textile industry should include several major indicators. These indicators allow researchers to measure both the scale and efficiency of regional industrial development.

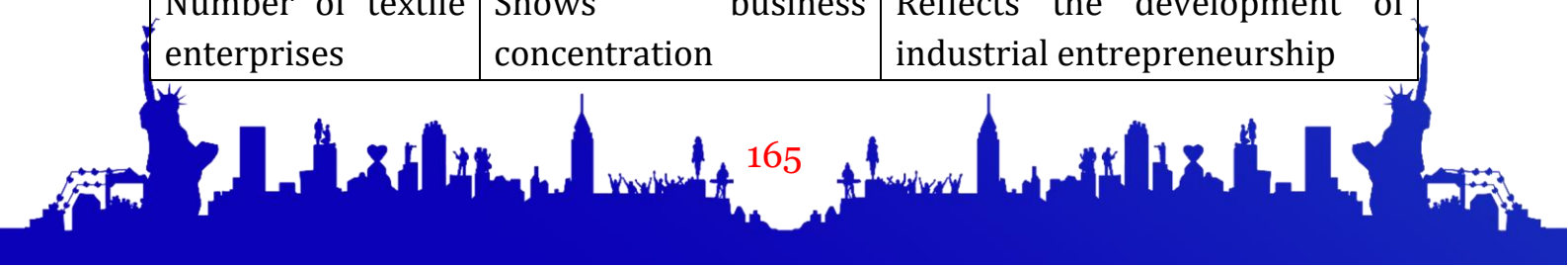
The main indicators include:

1. **Volume of textile production** – measures the total output of textile enterprises.
2. **Number of operating enterprises** – demonstrates the scale of business activity in the sector.
3. **Investment in fixed capital** – reflects the modernization and expansion of production capacity.
4. **Number of employees** – shows the contribution of the industry to regional employment.
5. **Export volume** – demonstrates the international competitiveness of textile products.
6. **Growth rate of production** – helps identify whether the sector is expanding or declining.
7. **Labor productivity** – allows comparison of production efficiency between regions.

Table 1.

Main indicators for statistical analysis of regional textile industry development

Indicator	Economic meaning	Importance for regional analysis
Textile production volume	Measures the scale of industrial output	Identifies leading production regions
Number of textile enterprises	Shows business concentration	Reflects the development of industrial entrepreneurship





Investment in fixed capital	Measures capital inflows into the sector	Indicates modernization potential
Employment	Shows the number of jobs created	Demonstrates social and economic importance
Export volume	Measures international sales	Indicates competitiveness
Production growth rate	Shows changes over time	Identifies positive or negative trends
Labor productivity	Output per employee	Measures production efficiency

The textile industry is not distributed equally among the regions of Uzbekistan. Regions such as Fergana, Andijan, Namangan, Tashkent, Bukhara and Samarkand have considerable industrial potential and a developed base for textile production.

The Fergana Valley has traditionally had favorable conditions for textile and light industrial production. A relatively large labor force, established industrial traditions, and proximity to cotton-producing areas support the development of textile enterprises.

Tashkent region also has significant advantages because of its developed infrastructure, access to transportation networks, investment opportunities, and proximity to major domestic markets.

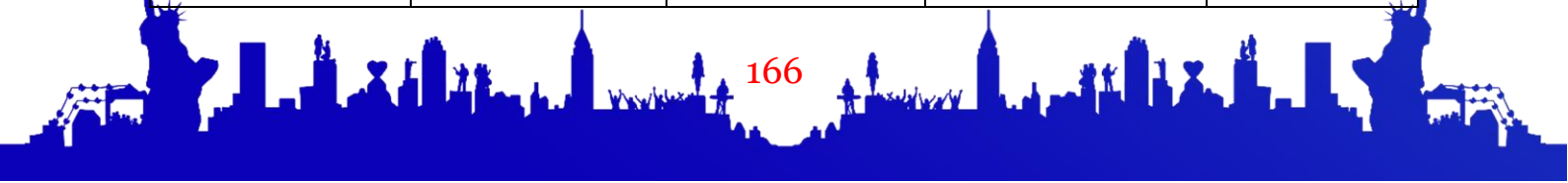
Bukhara and other regions have opportunities to develop textile production through the processing of locally available raw materials and the establishment of modern enterprises. Regional specialization can therefore become an important factor in improving overall industrial efficiency.

For a more detailed assessment, regions can be compared using an integrated statistical approach. For example, each region can be evaluated according to production, investment, employment, and export indicators.

Table 2.

Example of a comparative regional assessment

Region	Production potential	Investment potential	Employment potential	Export potential
Fergana	High	High	High	High
Andijan	High	High	High	High
Namangan	High	Medium-High	High	High
Tashkent Region	High	Very High	High	Very High





Bukhara	Medium-High	High	Medium-High	High
Samarkand	Medium-High	High	High	Medium-High
Kashkadarya	Medium	Medium-High	High	Medium
Surkhandarya	Medium	Medium	Medium-High	Medium

Such a comparison demonstrates that regional textile development depends on a combination of factors rather than on a single indicator. A region may have a large labor force but relatively low investment, while another region may have strong infrastructure and high investment potential.

Investment is one of the most important factors influencing the development of the textile industry. Modern textile enterprises require significant capital for machinery, energy-efficient technologies, digital production systems, and quality-control equipment.

Increasing investment can lead to several positive outcomes:

- expansion of production capacity;
- creation of new jobs;
- introduction of modern technologies;
- improvement of product quality;
- reduction of production costs;
- growth of exports;
- increased competitiveness in international markets.

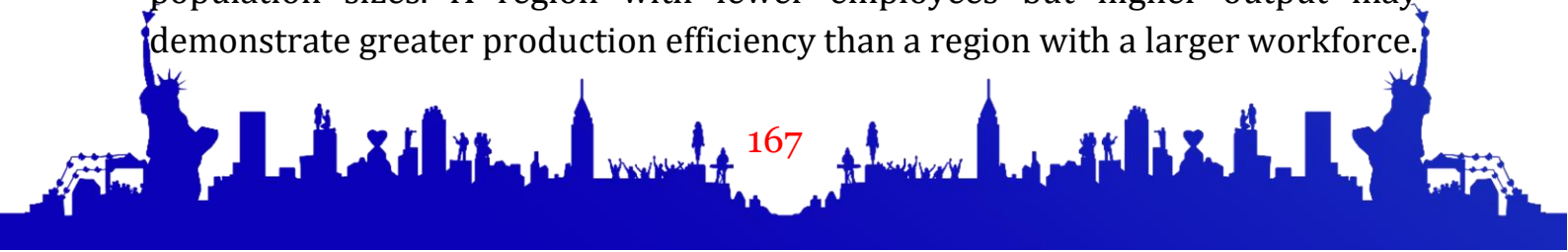
From a statistical perspective, the relationship between investment and production growth can be examined using correlation and regression analysis. If regions with higher investment demonstrate faster production growth, this may indicate a positive relationship between capital investment and industrial development.

The textile industry is also significant from the perspective of employment. Textile enterprises can provide jobs for a large number of workers, particularly in regions where industrial diversification is still developing.

However, the number of employees alone does not fully demonstrate the efficiency of a region's textile industry. Labor productivity should also be considered. It can be calculated using the following formula:

$$\text{Labor Productivity} = \text{Total Production} / \text{Number of Employees}$$

This indicator makes it possible to compare regions with different population sizes. A region with fewer employees but higher output may demonstrate greater production efficiency than a region with a larger workforce.





Export development is another major indicator of the textile industry's success. Increasing exports of finished textile and garment products allows enterprises to enter international markets and generate foreign currency revenues.

The development of export-oriented production requires compliance with international quality standards, competitive prices, reliable logistics, modern design, and effective marketing.

Statistical analysis of export data can reveal which regions have the strongest international market positions. It can also help identify products with the greatest export potential.

Despite significant progress, several challenges may limit the development of the textile industry. These include differences in infrastructure between regions, shortages of highly qualified specialists, high production costs, technological gaps, and insufficient diversification of some product lines.

To address these challenges, regional authorities and enterprises should focus on:

- attracting domestic and foreign investment;
- improving industrial infrastructure;
- increasing professional training;
- introducing energy-efficient technologies;
- developing textile clusters;
- expanding production of finished goods;
- strengthening export-oriented production;
- increasing digitalization and automation.

Conclusion

In conclusion, the textile industry is an important component of regional economic development in Uzbekistan. Statistical analysis shows that the development of this sector should be evaluated through a combination of production, investment, employment, export, and productivity indicators.

Regional differences create both challenges and opportunities. Regions with developed infrastructure, sufficient labor resources, investment activity, and access to raw materials have greater potential for textile industry development. At the same time, less-developed regions can increase their industrial capacity by attracting investment, improving infrastructure, and introducing modern technologies.

The transition from raw-material exports toward the production of yarn, fabrics, garments, and other finished products can significantly increase the





economic value generated by the textile sector. Therefore, the systematic use of statistical analysis is essential for identifying regional strengths and weaknesses and for developing effective industrial policies.

The future development of Uzbekistan's textile industry should focus not only on increasing production volumes but also on improving productivity, product quality, technological efficiency, and export competitiveness. Such measures can contribute to sustainable regional economic growth, increased employment, and stronger integration of Uzbekistan's textile industry into international markets.

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