

**INTEGRATED ASSESSMENT AND TARGETED RESOURCE
ALLOCATION FOR ENHANCING THE ECONOMIC POTENTIAL OF
TEXTILE ENTERPRISES**

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Abstract. This study evaluates the economic potential of Uzbekistan’s textile enterprises for 2010-2025 using an integrated framework covering resource, technological, financial, human capital, market and sustainability dimensions. The econometric results show that production and export growth positively influence economic potential, while excessive import dependence and employment growth without productivity gains may constrain it. Based on these findings, a CASCADE-based approach is proposed to identify weak areas, prioritize interventions and allocate development resources more efficiently. The framework supports stronger competitiveness and sustainable industrial development.

Keywords: textile industry, economic potential, integrated assessment, competitiveness, resource allocation, CASCADE approach, econometric analysis, Uzbekistan.

Introduction

The global textile industry is undergoing substantial structural change. Technological modernization, digital transformation, environmental requirements, changing consumer preferences and growing international competition are altering the conditions under which textile enterprises operate. Under these circumstances, the economic strength of an enterprise can no longer be evaluated solely through output, investment or profitability indicators.

A textile enterprise may possess considerable productive assets and labour resources while simultaneously experiencing technological limitations, low

productivity, inefficient investment, dependence on imported intermediate inputs or insufficient access to higher-value markets. Such imbalances reduce the enterprise's capacity to convert available resources into sustainable economic outcomes.

Consequently, the concept of economic potential should be understood as a multidimensional capability rather than as a simple stock of resources. In the context of the textile industry, economic potential reflects the ability of enterprises to combine production resources, technology, finance, human capital and market opportunities in a way that supports competitiveness and long-term development.

This issue is particularly important for Uzbekistan. Over the past decade, the textile industry has experienced significant expansion in production, investment, domestic processing and export activity. The transformation of the cotton-textile value chain has created opportunities for moving from primary processing toward higher value-added textile and apparel products. At the same time, the effectiveness of this structural transition depends on how efficiently enterprises use their expanding economic resources.

The purpose of the present study is to develop an integrated framework for evaluating the economic potential of textile enterprises and to use the assessment results as a basis for targeted managerial intervention. The research focuses on three related questions. First, how can the multidimensional economic potential of textile enterprises be assessed within a unified framework? Second, which economic factors have the strongest relationship with changes in economic potential? Third, how can the results of such assessments be transformed into practical resource-allocation decisions?

Traditional approaches often assess enterprise potential through separate indicators such as production, finance, fixed assets and labour, which may not fully reflect overall economic capacity. This study therefore evaluates textile-enterprise economic potential through six interconnected dimensions: resource, technological, financial, human capital, market and sustainability potential. A weakness in any of these components may limit the effectiveness of the others. Thus, economic potential

depends not only on the volume of available resources but also on how efficiently they are transformed into sustainable economic outcomes.

The empirical analysis covers Uzbekistan's textile industry during 2010-2025 and combines integrated assessment, econometric analysis and managerial prioritization. Six dimensions of economic potential are standardized and aggregated into the Textile Industry Economic Potential Integral Index (TSISII), while the econometric model evaluates the effects of production, investment, FDI, exports, imports, fixed assets and employment. The model explains approximately 91% of the variation in economic-potential growth and satisfies major diagnostic requirements. Finally, the CASCADE-based approach uses these results to identify weak components and establish targeted development priorities.

The integrated assessment indicates that the economic potential of Uzbekistan's textile industry improved over the analysed period, although the development trajectory was not uniform.

During the earlier years of the study period, the industry was predominantly characterized by relatively low levels of integrated economic potential. Production capacity, investment and other resources expanded considerably over time, contributing to gradual structural improvement.

From 2020 onward, the integrated assessment increasingly shifted toward the medium economic-potential category. By 2025, the value of the integrated index was approximately 0.54, which still corresponds to a medium level rather than a stable or high level.

This finding is significant because the textile industry experienced substantial growth in physical and financial indicators during the same period. The gap between rapid resource expansion and only moderate integrated-potential performance indicates that increasing resource volumes alone does not guarantee proportional improvements in economic capacity.

In other words, the key challenge is not only to accumulate more production assets, investment and labour, but also to improve the efficiency with which these resources are converted into economic results.

The econometric analysis provides additional evidence supporting this conclusion.

Production growth exhibits the strongest positive relationship with changes in integrated economic potential. The estimated results indicate that a one-percentage-point increase in production growth is associated with an approximately 1.22 percentage-point increase in economic-potential growth, other factors remaining unchanged.

The magnitude of this relationship suggests that productive utilization of available capacities remains one of the main sources of economic-potential improvement. However, this should not be interpreted as a recommendation to expand output regardless of efficiency. Rather, the result emphasizes the importance of transforming existing inputs into economically valuable production.

Export growth also has a substantial positive relationship with economic potential. A one-percentage-point increase in export growth is associated with an approximately 0.41 percentage-point increase in economic-potential growth.

This result confirms the importance of international-market integration for textile enterprises. Export activity expands market opportunities, creates incentives to improve product quality, strengthens access to foreign currency revenues and encourages enterprises to move toward higher value-added production.

The relationship between foreign direct investment and economic-potential growth is positive but relatively modest in the short run. This may reflect the fact that the benefits of foreign investment often emerge with a time lag. New equipment must be installed, workers must be trained, production systems must be reorganized and market relationships must be established before the full economic effect becomes visible.

Growth in fixed assets also has a positive relationship with economic potential. However, the relatively moderate magnitude of this effect confirms that the presence of additional machinery and equipment is not sufficient by itself. Economic returns depend on capacity utilization, technological quality, maintenance, production organization and market demand.

Investment growth produces a negative short-term coefficient in the estimated model. This result should be interpreted carefully. It does not imply that investment damages the textile industry. Large investment projects frequently generate substantial initial costs associated with modernization, construction, technological adaptation, restructuring and employee training. The economic return from such expenditures may therefore appear only after a certain period.

The result instead highlights the importance of investment efficiency and the need to distinguish between investment volume and investment effectiveness.

Import growth exhibits one of the strongest negative relationships with changes in economic potential. According to the estimated model, a one-percentage-point increase in import growth is associated with an approximately 0.39 percentage-point decline in economic-potential growth.

This result should also be interpreted selectively. Imports of advanced machinery, technology and specialized equipment can strengthen technological capacity. In contrast, persistent dependence on imported intermediate inputs that could be produced efficiently within the domestic economy may reduce domestic value creation and increase exposure to external market risks.

Therefore, the strategic objective should not be complete import reduction. Instead, textile policy should differentiate between productive technological imports and dependency-generating imports.

Employment growth also shows a negative relationship with integrated economic potential. This does not mean that employment creation is undesirable. Rather, it indicates that increasing the number of workers without corresponding improvements in output and productivity may weaken enterprise efficiency.

The result emphasizes the importance of productivity-oriented employment policy. Workforce expansion should be accompanied by skills development, technological modernization, improved production management and digital competencies.

Taken together, these findings support a broader conclusion: economic potential is determined by the effectiveness of resource transformation rather than by resource quantity alone.

The proposed CASCADE approach is designed to convert the results of economic-potential assessment into practical management decisions.

The first stage is conceptualization. At this stage, the enterprise defines the structure of its economic potential, its major dimensions and the indicators required for evaluation. This creates a common analytical framework for subsequent decision-making.

The second stage is assessment. The overall economic-potential level and the performance of individual components are evaluated. This stage identifies which parts of the enterprise's economic capacity are relatively strong and which are underdeveloped.

The third stage is significance analysis. Econometric results are used to determine which factors have the greatest estimated influence on economic-potential growth. This prevents managers from treating every weak component as equally important.

The fourth stage is classification and prioritization. Priority is given to areas where weak current performance coincides with potentially strong economic influence. This principle is important because limited managerial and financial resources should be directed to areas where improvements are most likely to produce significant economic benefits.

The fifth stage is targeted resource allocation. Depending on the diagnosed weakness, financial, technological, human-capital or market-development resources can be redirected toward priority components.

For example, if technological potential is weak and econometric evidence indicates that production efficiency strongly affects economic potential, investment may be redirected toward modernization, automation and digital production systems. If market potential is weak while export activity has a strong positive relationship

with economic performance, managerial resources may be concentrated on product certification, foreign-market development, branding and export diversification.

The sixth stage is implementation. At this stage, specific managerial measures are carried out. These may include technological modernization, workforce training, digitalization, energy-efficient production, quality management, domestic supplier development, export-market expansion and more efficient investment planning.

The seventh stage consists of evaluation and reassessment. After implementation, the enterprise's economic-potential indicators are recalculated. Improvements and remaining weaknesses are identified, and a new cycle of prioritization begins.

The CASCADE approach therefore differs from conventional assessment models because it does not end with the calculation of an index. It establishes a continuous relationship between measurement, diagnosis, resource allocation, intervention and subsequent evaluation.

The findings of the study have several implications for textile enterprises and industrial policymakers.

First, industrial-support measures should be differentiated according to the structure of enterprise economic potential. Enterprises with similar production volumes may face very different constraints. One may require technological modernization, while another may suffer from weak market access or inefficient financing.

Second, investment policy should focus more strongly on the productivity of capital expenditure. Increasing the total amount of investment remains important, but greater attention should be paid to the economic return generated by technological modernization, digitalization and production efficiency.

Third, export development should remain a strategic priority. The positive association between export growth and economic-potential growth demonstrates the importance of international markets for strengthening the competitiveness of textile enterprises.

Fourth, import dependence should be managed selectively. The development of competitive domestic supply chains can reduce dependence on imported intermediate inputs, while imports that contribute to technological modernization should continue to be encouraged where economically justified.

Fifth, human-capital development should focus on productivity rather than only on workforce expansion. The growing use of automated production, digital monitoring and modern management systems increases the importance of technical skills and continuous employee training.

Finally, sustainability should increasingly be integrated into economic decision-making. Resource-efficient production, reduced energy intensity and cleaner technologies can contribute simultaneously to environmental performance, cost reduction and long-term competitiveness.

Conclusion

This study develops an integrated approach to assessing and enhancing the economic potential of textile enterprises. The framework treats economic potential as a multidimensional system consisting of resource, technological, financial, human-capital, market and sustainability capabilities.

The empirical assessment of Uzbekistan's textile industry for 2010-2025 indicates considerable progress in economic potential, although the industry remained within the medium category by the end of the analysed period. This demonstrates that rapid growth in production and investment has not yet been fully converted into balanced economic capacity across all dimensions.

The econometric analysis confirms that production and exports are among the strongest positive factors associated with economic-potential growth. At the same time, the results reveal important challenges related to investment effectiveness, import dependence and labour productivity.

The proposed CASCADE approach extends the analysis from measurement to management. It combines identification of weak economic-potential components with econometric evidence regarding the importance of relevant factors and uses these results to prioritize managerial intervention and resource allocation.

The central conclusion is that strengthening the economic potential of textile enterprises requires a transition from a resource-accumulation model toward a resource-efficiency model. Sustainable industrial competitiveness depends not simply on how much capital, labour or production capacity an enterprise possesses, but on how effectively these resources are transformed into productivity, exports, technological progress and long-term economic value.

The proposed framework can be applied both at the enterprise and industry levels and may provide a basis for more targeted industrial-support policies. Future research may extend the approach using enterprise-level panel data and incorporate additional indicators related to innovation, digital maturity, energy efficiency, carbon intensity and product complexity.

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