

# Factors Affecting the Development of the Light Industry in Uzbekistan

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**Abstract:** The article explores the theoretical aspects of the development of light industry, with the analysis of econometric models of the output and investment dependence. Using the Cobb-Douglas production function, the Solou model has been modeled to determine the GDP. On the basis of the Solou model the economic dynamics model is created, which analyzes the econometric models of the factors influencing the development of light industry in Uzbekistan.

**Keywords:** Light industry, econometric model, investment, foreign investment, Cobb-Douglas production function, modernization, technology

## 1. INTRODUCTION

Stable population growth in the world in recent years, and this trend will continue in the future, will lead to improved living conditions and increased solvency, further increasing the demand for finished and semi-finished textiles. This, in turn, requires the development of modern research in light industry of the country, particularly in the textile industry, with the aim of expanding the product range and improving its quality, as well as reducing production costs.

In the world, light industry is now strategically important for developing countries, accounting for up to 70.0% of clothing exports. In this category, the development of light industry should be considered as a major source of economic growth. Because it offers several opportunities for accelerating development.

As a result of the economic reforms in Uzbekistan, the issues of modernization and equipping of light industry enterprises with new equipment and technologies, further development of enterprises and financial support have been put on the agenda.

The urgency of the problems associated with the development of light industry enterprises and the need to develop scientific proposals and recommendations to address them are very important.

## 2. LITERATURE REVIEW

The issue of developing light industry enterprises has been researched by economists on a scientific basis, and relevant scientific conclusions and practical recommendations have been formulated.

The results of the research of A. Klepikov and T. Kuznetsova showed that the major part of the textile industry in Russia is due to the high rates of depreciation of fixed assets and the constant rise in prices for raw materials. It is necessary to attract large-scale investments to these enterprises to get out of crisis. In Russia, lower energy, gas, water and manpower than European countries play an important role in the development of textile industries. [1]

In our opinion, this scientific conclusion of Klepikov and Kuznetsova is of great practical importance for the Republic of Uzbekistan. In our republic, gas, water, and labor are cheaper than in Western countries. In addition, cotton is grown on our own. These factors play an important role in the development of the textile industry.

According to A. Salmanov, the following measures should be taken by the state to ensure the sustainability of light industry enterprises:

- Repayment of part of the repayments for loans received by light industry enterprises through budget subsidies;
- Public funding of research in the field;
- Renewal and optimization of taxation, certification and standardization systems;
- implementation of investment projects that allow the enterprises of the sector to increase the use of local raw materials;
- tax incentives for small businesses operating in the network. [2]

In our opinion, the implementation of the measures proposed by A. Salmanov will contribute to the financial sustainability of the light industry. However, A. Salmanov did not pay any customs privileges to light industry.

Whereas, the possibility of re-equipment of light industry enterprises with new techniques and technologies directly depends on the level of import duties. For this reason, the provision of customs privileges to light industry enterprises plays an important role in the development of their manufacturing activities.

The results of scientific studies of foreign economists show that, first of all, high profitability of companies depends mainly on the amount of retained earnings and efficiency of attracted investments; Secondly, the increase in capital turnover of industrial enterprises is proportional to their profitability; Thirdly, the consolidation of companies with similar activities will ensure that they do not reduce profit. [3]

### 3. MODELLING

The Cobb-Douglas production function is an excellent tool for economic analysis. It is the basis for modeling economic dynamics, with which the process of production at any level is modeled - enterprise, territory, country. Cobb-Douglas was first introduced to the wider scientific community in 1928 and is still widely used in micro and macro modeling. [4]

R. In the Solou model, GDP is calculated using the Cobb-Douglas function as follows:

$$Y_t = aK_t^\alpha L_t^{1-\alpha} \quad (1)$$

In discrete (t) time GDP (Yt) is divided into gross investment (It) and consumption (St):

$$Y_t = I_t + C_t \quad (2)$$

At the same time, the emphasis is on investments, not consumption, and therefore the portion of GDP to be invested is expressed as savings rates:

$$I_t = \rho Y_t \quad (3)$$

It is known that investment attraction will lead to the increase of fixed assets  $K_{t+1}$  next year and set  $K_t$  in the depreciated funds taking into account the  $\mu$ - share of fixed assets issued during the past year:

$$K_{t+1} = (1-\mu)K_t + I_t \quad (4)$$

Агар икисодиётдаги бандлар сони  $L_{t+1}$  деб белгиланса, бандлар сонининг йиллик ўсиш суръатлари( $\nu$ )ни ҳисобга олган ҳолда, жорий йилдаги бандлар сони  $L_t$  билан аниқланади:

If the number of jobs in the economy is set to be  $L_{t+1}$ , then the number of jobs in the current year is calculated with  $L_t$ , taking into account the annual growth rate ( $\nu$ ):

$$L_{t+1} = (1+\nu)L_t \quad (5)$$

It is possible to calculate GDP, investments and other indicators, taking into account the main production assets and employment figures for the next year.

Equations (1) - (5) form the mathematical expression of the Solou model. It is possible to apply this model to the economic development of the sector and to formulate conclusions and recommendations for further development of the sector.

### 4. DISCUSSION OF RESULTS

Development of economic dynamics model for econometric analysis of light industry development indicators and outputs in the light industry (billions of soums), as well as factors contributing to this, include investments in the industry (billions of soums), number of employees in the industry (thous. People) and industry. capital gains in the industry (billion UZS) were selected based on the data for 2007-2017.

A simple production function found by the infinite indices of the above factors using the least squares method is as follows:

$$Q_t = 0,98K_t^{1,55} L_t^{0,18} \quad (6)$$

Thus, in 2007-2017 the light industry of Uzbekistan used 1.55 units of capital resources and 0.18 units of labor resources elasticity. To create an economic dynamics model, the production function alone is not sufficient, it is necessary to describe the other links of this model.

As GDP is divided into consumption and savings, the above factors must be computed with a savings rate  $\rho$  that reflects the share of GDP invested. That share was just 0.20! That is, the amount of investments in the t - year is determined using this savings rate as follows:

$$I_t = 0,20Q_t \quad (7)$$

Investments will result in  $K_{t+1}$  growth of fixed assets next year, and fixed assets in previous years will be represented by  $\mu$ , taking into account the fixed assets excluded during the year. The share of depreciation of fixed assets in the calculation of the share of write-off of fixed assets was 0.08. This means that production resources in the sector are not operating at sufficient capacity. With this in mind, the dynamics of capital resources for the period under review are described by the following model:

$$K_{t+1}=0,08 K_t +I_t \quad (8)$$

Annual growth in the number of employed in the light industry was 1.01%.

$$L_{t+1}=1,01L_t \quad (9)$$

It can be seen from models (6) - (9) that the need to increase investment in the development of light industry in our country can be seen through a model. Analysis of the formula (8) has shown that it is important to bring new techniques and technologies into the light industry. In 2007-2017, the share of enterprises with foreign investment in the GDP of Uzbekistan increased almost twice. In addition, the share of light industry in the GDP of the country will increase by at least 2 times by increasing the volume of high-tech and export-oriented products operating in the 3-4-tier system of light industry and attracting foreign investment.

## **5. CONCLUSIONS**

The following conclusions were made during the study:

1. Increasing the output of light industry will increase the competitiveness of industrial enterprises, which will lead to further improvement of the quality of industrial products.
2. It is necessary to install new technologies and technologies, which are the most important factors influencing the development of light industry. This will increase the volume of light industry production.
3. It is necessary to develop a mid-term and long-term strategy for attracting foreign investment in the development of light industry.
4. Increasing the share of light industry in the country's GDP by increasing the volume of high-tech and export-oriented products operating in the 3-4-tier system of light industry and attracting foreign investment.

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