

ECONOMETRIC ANALYSIS OF INVESTMENTS IN THE COUNTRY'S FOOD INDUSTRY (ON THE EXAMPLE OF UZBEKISTAN)

Bakhtigul F. Tolipova

PhD post doctoral at Tashkent State University of Economics, Uzbekistan
b.tolipova@tsue.uz

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Abstract

This article discusses the role of investment in today's economy and other sectors. In particular, it expressed the need for the food industry and the role of the food industry in the economy of the Republic of Uzbekistan. The concept of the food industry and its components is also covered in the article. Data from the Statistical Committee of the Republic of Uzbekistan were used in this research. The share of food in GDP was analyzed by comparative analysis. Comparative analysis of food processing enterprises was conducted in the country. Using the Cobb and Douglas functions. In addition to the above analyzes, a regression analysis was performed on the size of the food industry and the relationship between domestic and foreign investments. The model developed on types of investments have the greatest impact on the volume of food production in the food industry. Based on the results of the analysis, appropriate conclusions and recommendations have been developed.

Keywords: agriculture, livestock, food industry, processing industry, domestic investment, foreign investment.

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INTRODUCTION

The importance of investment in the socio-economic and political development of any economy is undeniable. Today is a peculiar period for the processes of globalization of the economy. The importance of investment in the economy is increasing in its place in the world market, in maintaining positive international economic relations and increasing the competitiveness of national goods in domestic and foreign markets. While investment in the country is one of the key factors of macroeconomic growth, its role in the microeconomic area is also immeasurable. Attracting investment in the manufacturing sector of the real sector is a major factor in the functioning of this sector in the national and world markets. In the conditions of the emerging free economic environment, enterprises can produce competitive goods and services through investment.

It is predicted that by 2050 the world population will reach 9 billion and the income of the poor will grow according to recent economic growth trends [Trends in Food Science & Technology. Volume 72, February 2018, Pages 62-73]. This requires expanding the range and quality of food products and introducing new technologies.

The issue of uninterrupted supply of high quality food products to the population of the country requires special attention to the growth of food industry. The Republic has an enormous experience in food processing, which is significant for national economy. This industry is mainly based on the processing of local raw materials. The food industry has over a dozen types of industries linked together.

The food industry is a key sector of the economy that protects and supports the population, provides jobs, and generates the budgets of large and small areas. Food industry - meat, milk, fat, fish products, flour, bread, pasta, canned vegetables, confectionery, tea packaging, grape and champagne wine, alcohol, vodka, tobacco, beer, soft drinks, many industrial enterprises producing soap and other products [FOOD PRODUCTS Saul Blumenthal. Food Technologist and

Consultant, Shirley Laboratories Fallow, American Institute of Chemists 1947 Brooklyn N.Y.]. Its strategic development in the economy as a real sector should be the most important task of the state [FOOD PROCESSING TECHNOLOGY Principles and Practice Second Edition].

The prerequisite for improving the quality and expanding the range of products is the continuous investment and innovation process associated with production modernization, food and processing industries. The quality of consumer goods is one of the main conditions for the health of the population.

In order to accelerate and efficiently implement the aforementioned activities, the Agency for the Implementation of the Agro-Industrial Complex and Food Supply Projects has started its activity on March 22, 2019.

One of the main tasks and functions of this agency is to provide foreign investments, international financial institutions and foreign government financial institutions for the implementation of projects in the agro-industrial complex and food supply, including priority areas of development and support of entrepreneurship. loans, grants and technical assistance [Resolution of the Cabinet of Ministers of the Republic of Uzbekistan dated March 22, 2019, No. 241].

METHODOLOGY AND ANALYSIS

This article uses data from the State Statistics Committee of the Republic of Uzbekistan. The statistics collected were analyzed using a comparison method as well as in the econometric analysis section of the article.

The production of competitive products that meet international standards requires state-of-the-art technology, the introduction of advanced technology, and the development of new technologies, which require significant financial and administrative costs.

It should be noted that the number of food processing enterprises in the country and their production volume is increasing year by year.

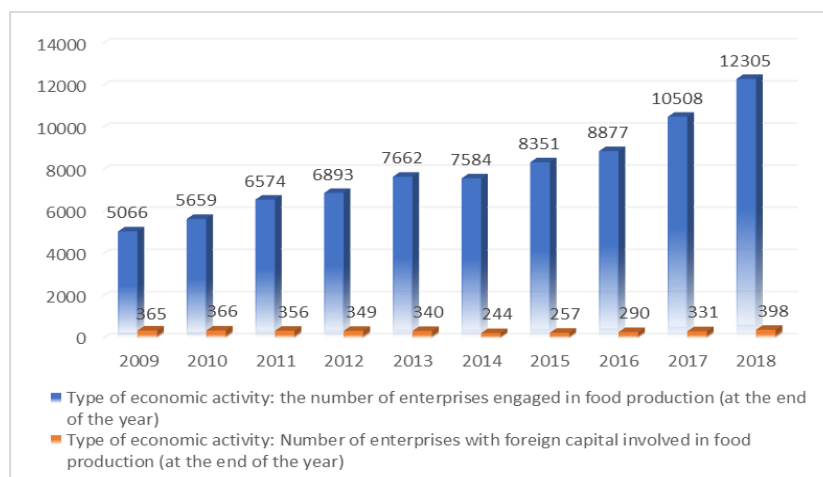


Figure 1. Number of Food Products Enterprises by Regions 2018

From the table, we can conclude that the number of businesses involved in food production in the country has grown from 5066 in 2009 to 12,503 in 2018 because of the economic policies in the country. The number of enterprises with foreign capital involved in food production has also declined from 365 to 398 in 10 years.

The economic situation in which most of the food industry enterprises are located does not allow them to fully implement programs for re-equipment and replacement of obsolete equipment with modern models. In many cases, point investments are made, that is, improvements in existing production lines.

Agriculture plays a key role in ensuring the sustainability and advance of the economy of the Republic, supplying the industry with raw materials and food products. Two major agricultural sectors - agriculture and livestock - produce raw materials for food and industry, which are essential for human life. The food industry also includes various processes for the initial or complete processing of agricultural and livestock products and is essential for the welfare of the people. Therefore, during the first phase of economic reforms in Uzbekistan, much attention was paid to the processing of agricultural products.

It is well known that development of a person's life, his health and ability to work effectively depend, first of all, on the nutrients consumed, their ecological purity, their nutritional value and various minerals. This dependence requires the continual monitoring of the daily needs of the people and taking appropriate measures, given the primary importance of the country's regular food supply.

In recent years, the share of industrial output in the country's GDP has been increasing, from 23.6% in 2009 to 26.3% in 2018. In particular, the food industry is developing at a rapid pace. The share of the food industry in the overall industry was 11% in 2009, compared to 13% in 2018.

This growth is the result of effective economic reforms in our country. Investments in the sector play an important role in achieving these achievements. In particular, investments into the industry in 2017 amounted to 8746,8 billion US dollars. soums and 14.4% of total investments. In the manufacturing sector, the three types of activities that are most invested are: metallurgical industry, food industry and textile industry, of

which investments in food, beverage and tobacco production amount to 1,265.4 billion. (2.2% of total capital investments). However, it is important to assess the efficiency of the involved capital, the assessment of the efficient use of available resources and the factors that influence them.

This article uses the Cobb-Douglas production function to analyze b performance.

To model a particular region or country (i.e. to address macroeconomic and microeconomic issues)

$$y = a_0 x_1^{a_1} x_2^{a_2}$$

The production function in the form is used most often, here

a_0, a_1, a_2 — production function parameters. These are positive numbers (often a_1 and a_2 $a_1 + a_2 = 1$ satisfies the condition). The above-mentioned production function is called the production function of Cobb and Douglas by the names of two American economists who proposed to use it in 1929.

P. Douglas and D. Cobb built a mathematical model that reflects the link between production and the impact of capital and labor costs on the manufacturing industry based on statistics. The Cobb-Douglas production function is actively used to solve a variety of theoretical and practical issues due to its simple structure. In the applications of Cobb-Douglas production function $x_1 = K$ the amount of capital used, $x_2 = L$ Cobb-Douglas production function is often used in the

$$Y = a_0 K^{a_1} L^{a_2}$$

literature when it comes to labor costs looks. Here it is $a_0 > 0, a_1, a_2 \geq 0, a_1 + a_2 = 1$

The following variables were used for the empirical analysis of the impact of domestic and foreign investment on the volume of food produced in the country: the volume of food, the volume of domestic investments and the volume of foreign investments. In order to increase the adequacy of the econometric model, the variables were taken in a logarithmic manner, and descriptive statistics were also presented for logarithmic amounts.

Variables	Mean	Standard deviation	Min	Max	Standard error
$\ln Y$	9,495735	0,545854157	8,616405	10,07924	0,181951386
$\ln I$	6,396186	0,724589611	5,417433	7,857287	0,24152987
$\ln X_{I1}$	3,875195	0,644048077	2,332144	4,465908	0,214682692

Since all variables are logarithmic, the regression equation corresponds to the Cobb-Douglas production function. We have also made a foreign investment account a year ago.

	<i>Coefficients</i>	<i>Standard error</i>	<i>t-statistic</i>	<i>P-Value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Y-intersection	2,669600692	1,087973146	2,45373767	0,049538726	0,007426308	5,331775076
lnI	0,835946901	0,114665572	7,290304211	0,000339412	0,555370355	1,116523448
lnFllag1	0,381725842	0,129005093	2,95899823	0,025315794	0,066061751	0,697389933

According to the table, the factors obtained are statistically significant. Because the t statistics for both factors are less than 0.05. The coefficient of determination is 0.90, which means that the factors explained reveal 90% of the variation in food. The p-value of the F statistic is less than 0.001. This equation is statistically significant in general. In addition, if other variables remain unchanged, domestic investment will increase by 1%, and food production in the country will increase by 0.84%, while other variables will remain unchanged and foreign investment increased by 1% last year. This will lead to an increase in the volume of food production by 0.38%. Thus, the summary is that domestic investment is effective in increasing the volume of food produced in the country.

CONCLUSION

Based on the results of the analysis, it is advisable to carry out the following activities in order to further develop the food industry and thereby improve the welfare of the population:

- underdevelopment of investment infrastructure - stimulating activity of banks along with investment funds, insurance and leasing companies, efficient involvement in investment projects application;
- inadequate business skills of entrepreneurs, encompassing investment projects, and not enough legitimate knowledge - establishing and developing regional consulting, marketing and legal services centers;
- non-compliance of investment proposals and feasibility study with the established requirements - organization and persistent regulation by local authorities of practical assistance to entrepreneurs in the investment project development operated by commercial banks, Chambers of Trade and Industry in the regions;
- non-active participation of local governments in informing foreign investors about the complete investment climate - each to provide full information to foreign investors (database of investment schemes and business offers, local press releases, economic analysis, raw materials and labor potential). Designing of web portal about "Investment potential" in the region, systematic conferences, seminars and presentations on investment activity ensuring the work.

To increase the efficiency of implementation of investment projects for the accelerated development of the food industry, construction of processing plants, reconstruction and modernization of existing ones:

- Further improvement of financing of investment projects; Support for entrepreneurs through the purchase of modern technological equipment on a leasing basis;
- strengthening the material and technical base of projects and improving energy supply;
- Improvement and improvement of the system of training, retraining and advanced training of economists-specialists for investment projects in economic universities;
- organization of effective use of information and communication technologies for initiators of investment projects; monitoring of project implementation should be established.

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Application

<i>Regression analysis</i>	
Multiple R-squared	0,949002512
R-squared	0,900605768
Adjusted R-squared	0,867474358
Standard error	0,198713138
Observations	9

ANOVA analysis					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p-value for F statistics</i>
Regression	2	2,146732619	1,073366309	27,18283809	0,000981937
Residual	6	0,236921466	0,039486911		
Total	8	2,383654085			

	<i>Coefficients</i>	<i>Standard error</i>	<i>t-statistics</i>	<i>P-value</i>	<i>Lower confidence limit 95%</i>	<i>Upper confidence limit 95%</i>
intercept	2,669600692	1,087973146	2,45373767	0,049538726	0,007426308	5,331775076
lnI	0,835946901	0,114665572	7,290304211	0,000339412	0,555370355	1,116523448
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