

# ASSESSMENT OF THE IMPACT OF SOME SOCIO-ECONOMIC INDICATORS ON INDUSTRIAL DEVELOPMENT IN SURKHANDARYA REGION ON THE BASIS OF REGRESSION ANALYSIS

**Jumaev Farrukh Tashmurotovich**

Lecturer, Department of Information Technology,  
Termez State University (Uzbekistan)

**Annotation.** In this paper evaluated the effect of some socio-economic indicators on the development of industry sector in Surkhandarya region. For this, used coefficients of elasticity determined on the basis of regression analysis. Based on the results obtained, prospective directions for industrial development in the region have been identified.

**Keywords:** regression, model, coefficient of determination, coefficient of elasticity, real incomes of the population.

Ensuring industrial development is an important factor in ensuring sustainable regional development and serves to bring the economy to a new level through the production of import-substituting, export-oriented high value-added products. As a result, managing structural changes in industrial development in the regions will be an important factor in achieving the country's long-term development goals.

In recent years, our country has been paying special attention to ensuring employment on the basis of industrial development, launching the production of high value-added products, production of import-substituting and export-oriented products. In shaping the industrial policy of the country, attention is paid to the development of specific areas of industry, taking into account the existing opportunities and potential of territorial units. In this article, we consider the results of the measures taken in this regard using the example of Surkhandarya using various econometric methods. This is because the share of the region in the industrial output of the republic is the smallest, at 1.4%. In addition, the share of industry in GRP, including construction, is 18.5%, if we look at construction in isolation, this figure is 8.0.

Using the coefficient of elasticity determined on the basis of the regression analysis method, we want to assess the impact of important indicators of the region on industrial development (Table 1).

Table 1

Results of regression analysis

№	Model	Studen mezzanine	Determination coefficients	Elasticclick coefficients
1.	$\ln(Y) = -2.4 + 1.2 * \ln(X_1)$	$b_1 = -19.8$ $b_2 = 57.3$	$R^2 = 0.99$	1.2
2.	$\ln(Y) = 1.8 + 0.6 * \ln(X_2)$	$b_1 = 8.2$ $b_2 = 12.8$	$R^2 = 0.89$	0.6
3.	$\ln(Y) = -3.9 + 1.6 * \ln(X_3)$	$b_1 = -18.4$ $b_2 = 40.1$	$R^2 = 0.99$	1.6
4.	$\ln(Y) = 1.4 + 0.6 * \ln(X_4)$	$b_1 = 10.9$ $b_2 = 23.2$	$R^2 = 0.97$	0.6

Here:  $Y$  - real value of industrial products produced in Surkhandarya region (at 2000 prices);  $X_1$  - real value of the gross regional product produced in Surkhandarya region (at the price of 2000);  $X_2$  - real value of investments in fixed assets (at the price of 2000);  $X_3$  - real value of agricultural products produced in Surkhandarya region (at the price of 2000);  $X_4$  - Real per capita income in Surkhandarya region.

Data from 2000-2020 were used to perform the above regression analysis and the indicators were converted to real values. According to the results of the analysis, the cited models justify the adequacy, that is, the adequacy of all the coefficients determined by the Student Criterion, while the coefficient of determination indicates that there is a correlation between these indicators. Based on the results of the given criteria, we obtained the coefficients of elasticity using these models.

From an economic point of view, there is a relationship between the region's GDP and the volume of industrial output, and the development of industry is directly related to the development of the region. According to the study, a one percent increase in GDP in Surkhandarya region will contribute to a 1.2 percent increase in industrial output.

Another important factor influencing the development of the industry is the investment in fixed assets. An assessment of its impact on industrial development in the region revealed that the coefficient of elasticity was 0.6. Two conclusions can be drawn from this, ie a large part of the investment is not made in the industry or the investments made in the industry are not used effectively.

The analysis shows that the coefficient of elasticity between industrial products and agricultural products grown in the region is becoming higher. This suggests that changes in product creation in agriculture have a strong impact on industry. In other words, the prospects for the development of light industry in the region, ie the processing of agricultural products, are one of the areas.

According to the results of the study, the increase in industrial production in the region is directly related to the socio-economic development of the region, and a one percent increase in GDP will serve to increase industrial production by 1.2 percent. In addition, it was found that the impact of changes in the real volume of investments in fixed assets in the region on manufactured industrial products is much lower.

It was also found that the impact of agriculture on industrial development is strong, with the coefficient of elasticity between the two indicators becoming more than one. This is the basis for considering the development of light industry in the region, which specializes in the processing of agricultural products, as one of the promising areas.

## References.

1. Ўзбекистон Республикаси Президентининг 2017 йил 7 февралдаги “Ўзбекистон Республикасини янада ривожлантириш бўйича ҳаракатлар стратегияси тўғрисида”ги ПФ-4947-сонли Фармони
2. Z.P. Miao, F. Zhang Industrial water resource utilization efficiency index measurement and analysis of its influencing factors under the background of new industrialization J. Shanghai Transpor. Univ., 51 (6) (2017), pp. 761-768<sup>1</sup>
3. C. Dhéret, M. Morosi, A. Frontini, A. Hedberg, R. Pardo, Towards a New Industrial Policy for Europe, Brussels, 2014. <https://dx.doi.org/ISSN1782-494X>.
4. J. Lin. New Structural Economics, A Framework for Rethinking Development and Policy World Bank, Washington, D.C. (2012)
5. Zhang J. Eco-environmental impact assessment of the change of regional industrial structure and regulative measures. Chinese J Popul Resour Environ 2008; 6(2): 8–17