

**IMPROVING THE INVESTMENT ATTRACTION MECHANISM
THROUGH MODELING AND FORECASTING TOTAL AND
SECTORAL INVESTMENTS IN SYRDARYA REGION**

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INTRODUCTION

Investment plays a crucial role in ensuring sustainable regional economic development, expanding production capacity, creating new jobs, improving infrastructure, and increasing the competitiveness of local economies. In this context, improving the mechanisms for attracting investment requires not only an increase in the overall volume of investment but also a comprehensive assessment of its sectoral structure and future dynamics. Modeling and forecasting investment flows provide an important analytical basis for identifying future trends and developing effective regional investment policies. Syrdarya Region has significant potential for attracting investment due to its industrial, agricultural, infrastructure, and geographical advantages. The development of industrial enterprises, construction activities, agriculture, transport, logistics, and service sectors creates opportunities for increasing investment activity in the region. However, differences in the volume and sectoral distribution of investments require a systematic assessment of existing trends and future investment opportunities. In this regard, forecasting total and sectoral investment volumes is particularly important. The use of econometric modeling and forecasting methods makes it possible to identify the dynamics of investment indicators, determine their development trends, and substantiate expected changes in the medium and long term. Such an approach can contribute to identifying priority sectors for investment attraction and improving the efficiency of investment resource allocation. The main objective

of this thesis is to develop proposals for improving the investment attraction mechanism in Syrdarya Region based on the modeling and forecasting of total and sectoral investments. To achieve this objective, the study focuses on analyzing the dynamics of investment indicators, assessing their sectoral structure, identifying major development trends, and developing forecast estimates using appropriate economic and econometric methods. The practical significance of the study lies in the possibility of using the obtained modeling and forecasting results to improve regional investment policy, determine priority sectors, increase investment attractiveness, and ensure a more balanced distribution of investment resources. The proposed approach can also serve as an analytical basis for making informed decisions regarding future investment projects and regional economic development.

MAIN PART

Investment forecasting is an important component of regional economic planning because investment decisions are associated with long-term financial resources, production capacity, employment, and infrastructure development. For this reason, the analysis of investment dynamics should consider not only the current volume of investments but also their structural distribution across economic sectors and expected future changes. For Syrdarya Region, the analysis of total and sectoral investment is particularly important because the regional economy combines industrial production, agriculture, construction, transport, logistics, and service activities. Changes in the investment structure can therefore have different effects on regional economic growth. A significant increase in investment in productive sectors can expand the region's production potential, while investment in infrastructure can improve the conditions for attracting additional private and foreign capital. The methodological approach of the study is based on the sequential implementation of three stages: analysis of historical investment dynamics, econometric modeling of investment indicators, and forecasting of their future values. This approach makes it

possible to identify the main trends in investment activity and use them as a basis for improving the regional investment attraction mechanism. The first stage involves analyzing the dynamics of total investment in fixed capital. Annual changes, growth rates, absolute increases, and structural shares are determined. At the second stage, sectoral investment indicators are analyzed separately to identify sectors with relatively high and low investment activity. At the final stage, appropriate forecasting models are applied to estimate future investment volumes. The volume of total investment is one of the most important indicators characterizing the investment activity of a region. Its long-term dynamics reflect changes in the investment environment, economic expectations, production opportunities, and the implementation of investment projects. For analytical purposes, the dynamics of total investment can be represented by the following general growth-rate formula:

$$T_t = \frac{I_t}{I_{t-1}} \times 100$$

These indicators make it possible to distinguish between periods of accelerated investment growth and periods of relatively low investment activity. Such analysis is important because a simple increase in the nominal volume of investment does not necessarily indicate an improvement in investment efficiency. Therefore, investment dynamics should be considered together with changes in the sectoral structure and economic performance of the region. In the case of Syrdarya Region, increasing investment activity can contribute to the expansion of industrial production, modernization of enterprises, development of transport and logistics infrastructure, and creation of additional employment opportunities. At the same time, maintaining sustainable investment growth requires the diversification of investment sources and the development of mechanisms for attracting private and foreign capital. The sectoral distribution of investment provides additional information about the direction of structural transformation in the regional economy.

Investment can be directed toward industry, agriculture, construction, transport, communications, trade, services, and other economic activities. The share of each sector in total investment can be calculated as:

$$S_{it} = \frac{I_{it}}{I_t} \times 100$$

The analysis of this indicator allows the identification of sectors that receive the largest proportion of investment resources. If investment is excessively concentrated in a limited number of sectors, the regional economy may become structurally dependent on those sectors. Conversely, a more diversified investment structure can strengthen economic resilience and create additional opportunities for balanced development. For Syrdarya Region, particular attention should be paid to the relationship between investment in industrial production and investment in supporting sectors. For example, the development of industrial enterprises requires corresponding investments in energy, transport, logistics, construction, communications, and services. Therefore, sectoral investment planning should consider not only individual sectors but also their intersectoral relationships. The modeling and forecasting results provide a basis for improving the investment attraction mechanism in Syrdarya Region. The mechanism should be oriented toward the differentiated development of sectors rather than relying on a uniform investment policy. First, investment priorities should be established based on the forecasted growth potential of individual sectors. Second, investment incentives should be differentiated according to the economic characteristics and investment needs of each sector. Third, mechanisms for attracting private and foreign investment should be strengthened through the development of infrastructure, improvement of investment project preparation, and reduction of administrative barriers. An important direction is the development of an investment monitoring and forecasting system. Such a system would allow

regional authorities to regularly monitor changes in total and sectoral investment, compare actual indicators with forecast values, and adjust investment policy when significant deviations occur. The results of econometric modeling can also be used to determine which sectors have the greatest potential for generating additional economic activity. Investment resources should therefore be concentrated not simply in sectors with historically high investment volumes, but in sectors where investment is expected to generate higher economic and social returns. The proposed approach provides an opportunity to connect investment forecasting with regional development planning. In particular, forecast values of total and sectoral investment can be used when preparing regional investment programs, selecting priority projects, planning infrastructure development, and assessing future financing requirements.

The practical application of the model can be organized according to the following sequence:

Historical data → Investment dynamics analysis → Sectoral structure assessment → Econometric modeling → Forecasting → Scenario analysis → Investment policy adjustment.

Thus, modeling and forecasting should be considered not as an isolated statistical exercise but as an integral element of the regional investment management system. For Syrdarya Region, this approach can contribute to identifying priority sectors, improving the allocation of investment resources, reducing structural imbalances, and strengthening the region's capacity to attract domestic and foreign investment.

Overall, the combination of total investment forecasting and sector-specific econometric analysis provides a more comprehensive basis for improving the investment attraction mechanism. It allows policymakers to move from reactive investment management toward a more proactive,

evidence-based approach in which future investment needs and sectoral development opportunities are identified in advance.

CONCLUSION

The study demonstrates that modeling and forecasting total and sectoral investment is an important basis for improving the investment attraction mechanism in Syrdarya Region. Analysis of investment dynamics makes it possible to identify long-term trends, assess structural changes, and determine sectors with greater potential for attracting additional investment resources. The findings indicate that investment policy should focus not only on increasing the overall volume of investment but also on improving its sectoral structure and efficiency. Priority should be given to sectors capable of generating higher added value, creating new employment opportunities, strengthening production capacity, and stimulating the development of related economic activities. Econometric modeling and forecasting provide an opportunity to substantiate future investment trends and reduce uncertainty in regional investment planning. The use of alternative scenarios—baseline, optimistic, and conservative—can improve the reliability of investment decisions and allow regional authorities to respond more effectively to changes in economic conditions. Based on the results, improving the investment attraction mechanism in Syrdarya Region requires strengthening investment infrastructure, diversifying sources of financing, supporting promising sectors, reducing administrative barriers, and establishing continuous monitoring of actual investment indicators against forecast values. Overall, the integration of econometric modeling, sectoral analysis, and forecasting can contribute to more effective allocation of investment resources, increased investment attractiveness, and sustainable economic development of Syrdarya Region.

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