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«ГЛОБАЛЬНАЯ ЦИФРОВАЯ ИНТЕГРАЦИЯ: АКТУАЛЬНОСТЬ ОБЕСПЕЧЕНИЯ УСТОЙЧИВОГО МИКРО- И МАКРОЭКОНОМИЧЕСКОГО РОСТА ЧЕРЕЗ РАЗВИТИЕ ТЕХНОЛОГИЧЕСКОЙ И ИНДУСТРИАЛЬНОЙ ПРОМЫШЛЕННОСТИ В ПЕРЕХОДЕ К ЗЕЛЁНОЙ ЭКОНОМИКЕ К 2030 ГОДУ»

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05.01.00 – Axborot texnologiyalari, boshqaruv va kompyuter grafikasi
05.01.01 – Muhandislik geometriyasi va kompyuter grafikasi. Audio va video texnologiyalari
05.01.02 – Tizimli tahlil, boshqaruv va axborotni qayta ishlash
05.01.03 – Informatikaning nazariy asoslari
05.01.04 – Hisoblash mashinalari, majmualari va kompyuter tarmoqlarining matematik va dasturiy ta'minoti
05.01.05 – Axborotlarni himoyalash usullari va tizimlari. Axborot xavfsizligi
05.01.06 – Hisoblash texnikasi va boshqaruv tizimlarining elementlari va qurilmalari
05.01.07 – Matematik modellashtirish
05.01.11 – Raqamli texnologiyalar va sun'iy intellekt
05.02.00 – Mashinasozlik va mashinashunoslik
05.02.08 – Yer usti majmualari va uchish apparatlari
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05.04.01 – Telekommunikasiya va kompyuter tizimlari, telekommunikasiya tarmoqlari va qurilmalari. Axborotlarni taqsimlash
05.05.03 – Yorug'lik texnikasi. Maxsus yoritish texnologiyasi
05.05.05 – Issiqlik texnikasining nazariy asoslari
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05.06.01 – To'qimachilik va yengil sanoat ishlab chiqarishlari materialshunosligi
05.08.03 – Temir yo'l transportini ishlatish
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10.00.06 – Qiyosiy adabiyotshunoslik, chog'ishtirma tilshunoslik va tarjimashunoslik
10.00.04 – Yevropa, Amerika va Avstraliya xalqlari tili va adabiyoti
08.00.01 – Iqtisodiyot nazariyasi
08.00.02 – Makroiqtisodiyot
08.00.03 – Sanoat iqtisodiyoti
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08.00.08 – Buxgalteriya hisobi, iqtisodiy tahlil va audit
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08.00.10 – Demografiya. Mehnat iqtisodiyoti
08.00.11 – Marketing
08.00.12 – Mintaqaviy iqtisodiyot
08.00.13 – Menejment
08.00.14 – Iqtisodiyotda axborot tizimlari va texnologiyalari
08.00.15 – Tadbirkorlik va kichik biznes iqtisodiyoti
08.00.16 – Raqamli iqtisodiyot va xalqaro raqamli integratsiya
08.00.17 – Turizm va mehmonxona faoliyati

Ma'lumot uchun, OAK Rayosatining 2024-yil 28-avgustdagi 360/5-son qarori bilan "Dissertatsiyalar asosiy ilmiy natijalarini chop etishga tavsiya etilgan milliy ilmiy nashrlar ro'yxati"ga texnika va iqtisodiyot fanlari bo'yicha "Muhandislik va iqtisodiyot" jurnali ro'yxatga kiritilgan.

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ASSESSMENT AND ANALYSIS OF INVESTMENT EFFICIENCY BY REGION IN UZBEKISTAN

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Abstract. This article analyzes investment efficiency in the regions of Uzbekistan based on data for 2010-2024. The study assesses the effect of investment on economic growth using the Incremental Capital Output Ratio (ICOR) and the Regional Investment Attraction Efficiency Index (IPI). The results show that there are significant differences among regions in the level of investment efficiency and investment attractiveness.

Keywords: investment, investment efficiency, ICOR, IPI, regional development, economic growth, gross domestic product.

Annotatsiya. Ushbu maqolada 2010–2024-yillar ma'lumotlari asosida O'zbekiston hududlarida investitsiya samaradorligi tahlil qilinadi. Tadqiqotda investitsiyalarning iqtisodiy o'sishga ta'siri Incremental Capital Output Ratio (ICOR) hamda Hududiy investitsiyalarni jalb etish samaradorligi indeksi (IPI) orqali baholanadi. Natijalar investitsiyalarning hududiy iqtisodiy rivojlanishni qo'llab-quvvatlashda muhim ahamiyatga ega ekanini ko'rsatadi. Shu bilan birga, hududlar kesimida investitsiya samaradorligi va investitsion jozibadorlik darajasi turlicha shakllangani aniqlanadi. Tadqiqot natijalari investitsiya resurslaridan samarali foydalanishni yanada kuchaytirish hamda hududlarning investitsion salohiyatini oshirish zarurligini asoslab beradi.

Kalit so'zlar: investitsiya, investitsiya samaradorligi, ICOR, IPI, hududiy rivojlanish, iqtisodiy o'sish, yalpi ichki mahsulot.

Аннотация. В данной статье анализируется эффективность инвестиций в регионах Узбекистана на основе данных за 2010–2024 годы. В исследовании оценивается влияние инвестиций на экономический рост с использованием показателя Incremental Capital Output Ratio (ICOR) и Индекса эффективности привлечения региональных инвестиций (IPI). Полученные результаты показывают, что инвестиции играют важную роль в поддержке регионального экономического развития. Вместе с тем установлено, что уровень инвестиционной эффективности и инвестиционной привлекательности различается по регионам. Результаты исследования обосновывают необходимость дальнейшего повышения эффективности использования инвестиционных ресурсов и укрепления инвестиционного потенциала регионов.

Ключевые слова: инвестиции, эффективность инвестиций, ICOR, IPI, региональное развитие, экономический рост, валовой внутренний продукт.

INTRODUCTION

Assessing investment efficiency by region is one of the important areas of economic policy. Investment flows may generate different economic outcomes across regions: in some regions, investment growth leads to a rapid expansion of economic activity, while in others, the impact of investment on gross domestic product remains relatively moderate. Therefore, empirical analysis of regional investment efficiency is important for identifying differences in territorial economic development and for developing practical measures to improve the effective use of investment resources.

Investment activity in the regions of Uzbekistan increased considerably during 2010–2024. Over this period, investments directed to infrastructure, industry, services, and the social sector contributed to the expansion of production capacities and the strengthening of regional economic potential. At the same time, the impact of investment on economic growth differs across regions. From this perspective, this study analyzes investment efficiency in the regions of Uzbekistan.

MAIN BODY

Two main indicators were used in the study to assess investment efficiency:

The ICOR indicator. ICOR (Incremental Capital Output Ratio) reflects the efficiency of investment growth

in relation to economic growth. A lower ICOR value indicates higher investment efficiency. Conversely, a higher ICOR value suggests that a larger volume of investment is required to achieve economic growth.

The Regional Investment Attraction Efficiency Index (IPI). The IPI is calculated using the following formula:

$$IPI_i = \frac{Inv_i / Inv_t}{GRP_i / GDP_t}$$

Where:

Inv_i — the volume of investment attracted to the region;

Inv_t — the total volume of investment across the country;

GRP_i — the gross regional product of the region;

GDP_t — the gross domestic product of the country.

An index value equal to 1 indicates proportionality between investment and economic potential. If IPI > 1, the region attracts more investment relative to its share in the national economy. If IPI < 1, this indicates that the region has additional opportunities to further strengthen the use of its investment potential.

The ICOR indicators by region show how effectively investment growth contributes to GDP growth. A lower ICOR value indicates higher investment efficiency, while a higher ICOR value means that a larger volume of investment is required to support economic growth.

The results presented in Figure 1 show that investment efficiency differs across regions. Based on the data in the chart, the regions are divided into three groups: regions with high efficiency (ICOR < 1.1), regions with medium efficiency (ICOR in the range of 1.1–1.3), and regions with relatively lower efficiency (ICOR > 1.3).

Regions with high efficiency (ICOR < 1.1): Navoi region — 0.86; Tashkent city — 1.03; Surkhandarya region — 1.11. In these regions, even a moderate increase in investment contributed to rapid GDP growth. In particular, Navoi region demonstrates the highest level of investment efficiency, indicating that economic growth has been achieved there through the effective use of available investment resources (Figure 1).

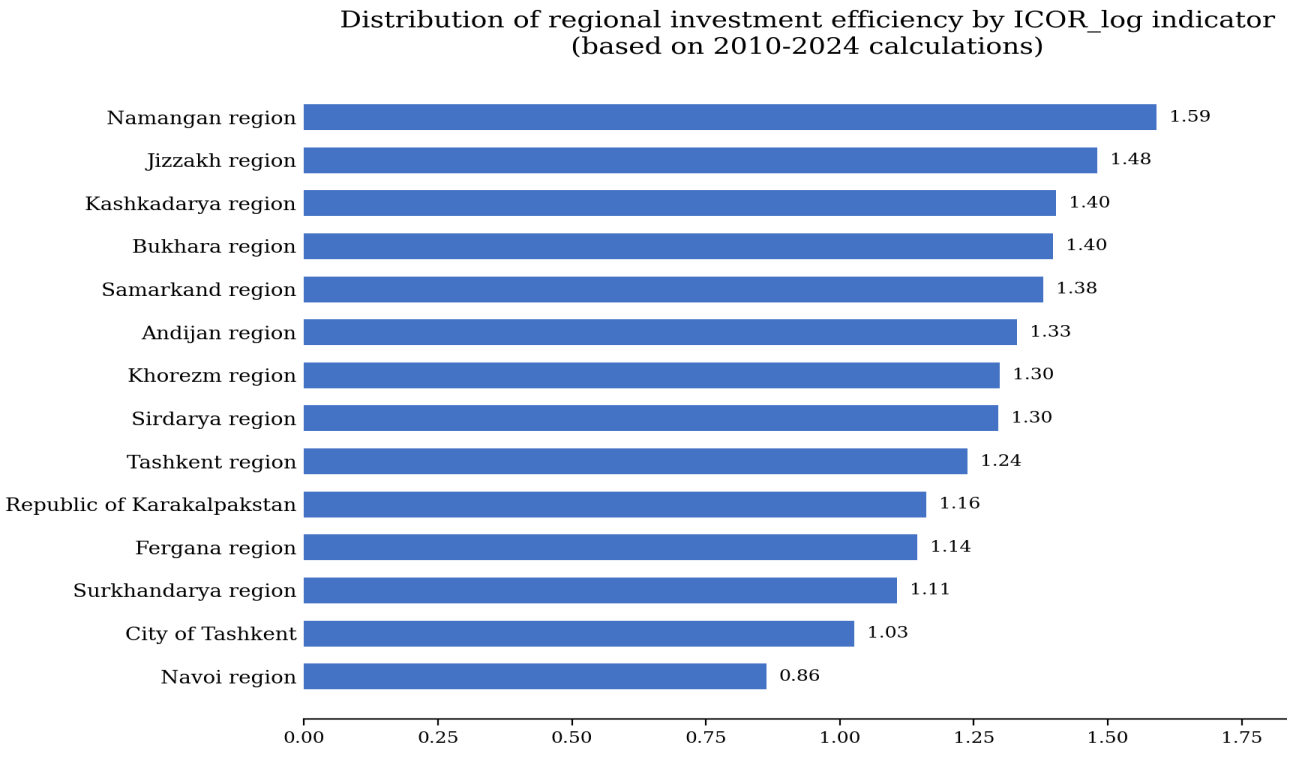

Figure 1. Distribution of investment efficiency in the regions of Uzbekistan according to the ICOR indicator based on calculations for 2010–2024[1]

1 Compiled by the author based on data from the National Statistics Committee of the Republic of Uzbekistan.

Regions with medium efficiency (ICOR in the range of 1.1–1.3): Fergana region — 1.14; the Republic of Karakalpakstan — 1.16; Tashkent region — 1.24; Khorezm region — 1.30; Sirdarya region — 1.30. In these regions, investment efficiency is assessed as moderate. Investment has a positive impact on GDP growth, and this effect can be further strengthened through infrastructure development, technological renewal, and improvement in the quality of investment projects.

Regions with relatively lower efficiency (ICOR > 1.3): Andijan region — 1.33; Bukhara region — 1.40; Samarkand region — 1.38; Jizzakh region — 1.48; Namangan region — 1.59. In these regions, investment growth has a more gradual effect on economic growth. In particular, the relatively high ICOR values in Namangan and Jizzakh regions indicate that there are additional opportunities to increase investment efficiency and improve the productivity of capital investments.

The ICOR indicators show that regional investment efficiency differs across Uzbekistan. Investment resources have a stronger impact on economic growth in Navoi region, Tashkent city, and Surkhandarya region. At the same time, Namangan, Jizzakh, Bukhara, and Andijan regions have opportunities to further improve investment efficiency through the modernization of investment policy, technological renewal, and the improvement of the sectoral structure of capital investments.

The state of investment activity in the regions can also be assessed using another indicator — the Regional Investment Attraction Efficiency Index (IPI). This index makes it possible to identify regions with relatively high investment attraction efficiency and regions with additional potential for improvement. The index is defined as the ratio between the region's share in the total volume of investment attracted to the country and the region's share in national GDP (see Table 1).

In this index, a value of 1 is considered the most optimal level. It indicates that investment attraction is generally proportional to the region's contribution to the national economy and that the regional investment environment is developing in a balanced manner.

An IPI value above 1 means that the volume of investment attracted to the region exceeds its share in the formation of the country's gross domestic product. This may be associated with high income potential, technological advantages, favorable geographical location, active infrastructure development, privatization processes, increasing investor interest, the discovery of new mineral resources, or other favorable economic factors.

A value below 1 means that the region's share of investment is lower than its share in the formation of the country's gross domestic product. This may indicate that the region has additional opportunities to strengthen investment attraction, improve the effectiveness of investment policy, and increase its overall competitiveness.

The methodology for calculating the Regional Investment Attraction Efficiency Index is as follows:

$$IPI_i = (Inv_i / Inv_t) / (GRP_i / GDP_t)$$

Where:

Inv_i — investment attracted to region i;

Inv_t — total investment attracted to the republic;

GRP_i — gross regional product of region i;

GDP_t — gross domestic product of the country.

Using this indicator, the state of investment attraction in 14 regions was assessed for the period 2010–2024.

The IPI results show that there are notable differences among regions in terms of investment attraction efficiency. Bukhara region — 1.76, the Republic of Karakalpakstan — 1.67, Kashkadarya region — 1.53, Navoi region — 1.22, Jizzakh region — 1.19, and Namangan region — 1.12 have IPI values above 1. This indicates that these regions attracted more investment relative to their share in the national economy. In these regions, investment inflows exceed their current economic share, reflecting relatively strong investment attractiveness and considerable potential for further economic development (Figure 2).

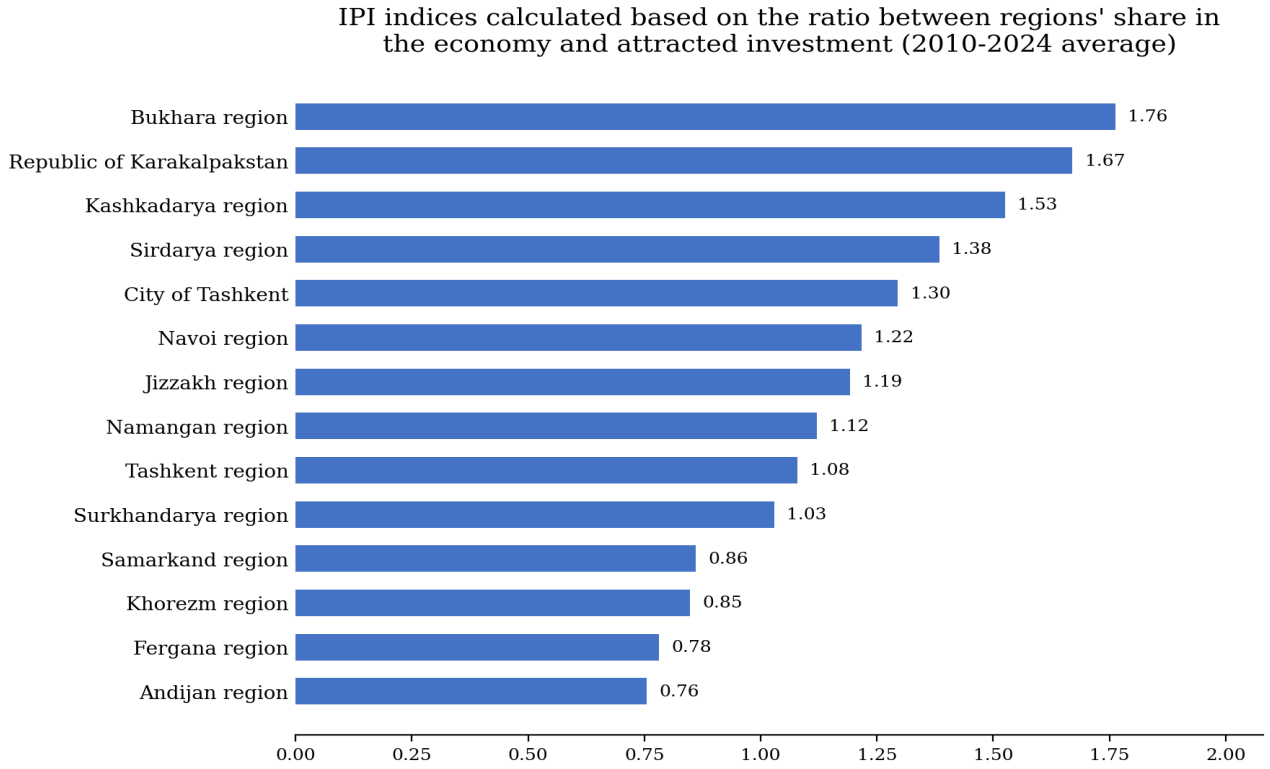

Figure 2. IPI indices calculated based on the ratio between the share of Uzbekistan's regions in the national economy and the volume of investment attracted to them, average indicators for 2010–2024[2]

In Andijan, Fergana, Samarkand, and Khorezm regions, where IPI < 1, investment inflows are lower than the regions' share in GDP. This indicates that these regions have additional opportunities to further realize their economic and investment potential. Therefore, it is important to improve investment conditions, strengthen incentive mechanisms for investors, and increase the effectiveness of regional investment policy.

Overall, during 2000–2024, the economy of Uzbekistan demonstrated a continuous growth trend, and the volume of GDP increased significantly. At the same time, the relative stabilization of economic growth indicates that the national economy is gradually moving toward a new stage based on efficiency, modernization, and innovative development. This, in turn, reflects the strengthening of long-term sustainable development potential in the national economy.

CONCLUSIONS AND RECOMMENDATIONS

According to the results of the research, the efficiency of investment attraction in the regions is largely shaped by the implementation of major strategic investment projects. Differences in regional investment activity may influence the economic balance and sustainable development of the country. Therefore, in order to strengthen the effective use of investment resources and ensure balanced regional development, it is proposed to develop long-term strategies aimed at ensuring the stability of investment flows attracted to the regions. These strategies should take into account the socio-economic conditions of each region, with special attention paid to diversifying the industrial structure and increasing investment in the processing industry and the services sector. These sectors are characterized by relatively lower capital intensity and can generate economic returns in a shorter period. It is also important to strengthen monitoring over the use of funds during the implementation of investment projects, optimize the process of developing and approving program-based projects, and ensure systematic control over compliance with implementation schedules. In addition, taking into account the important role of foreign investment in regional development, it is necessary to improve the quality of the system for working with foreign investors in the regions and to create more favorable conditions for the effective implementation of investment projects.

2 Compiled by the author based on data from the Statistics Agency under the President of the Republic of Uzbekistan.

REFERENCES

1. Institute for Macroeconomic and Regional Research. Analytical Report on Indicators of Investment Development of the Regions of Uzbekistan. Tashkent, 2024. Available at: www.imrs.uz.
2. Makhmudov, N.M., Avazov, N.R. Ways of Efficient Use of Investment in the Development of Uzbekistan's Economy: A Popular-Science Booklet. Tashkent: TSUE, 2019. 104 p.
3. Ministry of Economy and Finance of the Republic of Uzbekistan. Available at: www.imv.uz.
4. Mustafakulov, Sh.I. Improving the Theoretical and Methodological Foundations for Enhancing the Attractiveness of the Investment Environment in Uzbekistan: Doctor of Philosophy (PhD) Dissertation in Economic Sciences. Tashkent, 2017.
5. Mustafakulov, Sh.I. Theoretical, Methodological, and Practical Interpretation of Investment Attractiveness. Monograph. Tashkent: "Manaviyat," 2021. 352 p.
6. National Statistics Committee of the Republic of Uzbekistan. Available at: www.stat.uz.
7. Zaynalov, J.R., Aliyeva, S.S., Ruzibayeva, N.X., et al. Investment: A Textbook. Tashkent: Iqtisod-Moliya, 2020. 480 p.

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