Modern American Journal of Business, Economics, and Entrepreneurship
ISSN (E): 3067-7203
Volume 01, Issue 08, November, 2025
Website: usajournals.org

THE ROLE OF CAPITAL MARKETS AND CAPITAL INVESTMENTS IN ECONOMIC GROWTH: THE EXPERIENCE OF UZBEKISTAN AND EUROPEAN COUNTRIES

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Abstract
This paper examines the impact of capital markets and capital investments on economic growth through a comparative analysis of Uzbekistan and European countries. The aim of the study is to empirically assess the effect of capital market development on economic growth and to identify effective policy and institutional directions for Uzbekistan.
The study uses statistical data from the World Bank, OECD, EBRD and the Central Bank of the Republic of Uzbekistan for the period 2010–2024. The results indicate a stable positive relationship between capital market development and economic growth ($\beta_1 = 0.42$). The effect of capital investments is also positive ($\beta_2 = 0.36$), but its effectiveness varies across sectors. The comparative analysis suggests that strengthening institutional trust, developing digital financial infrastructure, and improving investor protection are necessary to enhance the role of the capital market in Uzbekistan's economy. The experience of European countries can serve as an important model for shaping the capital market as a key factor of economic stability.

Keywords: Capital market, capital investments, economic growth, financial system, investment efficiency, European experience, Uzbekistan, empirical analysis, regression model, institutional development.

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Introduction

In the current context of rapid global economic development, capital markets are becoming one of the most important drivers of economic growth. The level of capital market development directly affects investment flows, financial stability, innovative activities and production efficiency. Therefore, the proper distribution of capital across various economic sectors is recognized as a fundamental factor ensuring long-term sustainable development of each country.

The experience of developed countries shows that capital markets ensure financial stability of the economy, direct long-term investments to the production sector and become the main source for financing innovative projects. For example, in Germany, France and Poland, the share of capital markets in GDP reaches 60-80% (OECD, 2024). In these countries, capital markets work in harmony with banking systems, resulting in financial resources being directed to the real sector, education, technology and energy efficiency.

In Uzbekistan, however, although the capital market is not yet fully formed, significant reforms have been implemented in this direction in recent years. Since 2020, measures have been taken to digitalize securities trading, issue government bonds and develop the stock market. In 2024, the share of the capital market in GDP reached 11%, which represents nearly a threefold increase compared to 2015 (Central Bank, 2024). However, the relative weakness of capital market infrastructure, low share of institutional investors and insufficient financial literacy hinder the full utilization of the country's investment potential.

In the scientific literature, the relationship between capital markets and economic growth has been extensively studied (Levine, 1997; Rajan & Zingales, 1998; Beck & Levine, 2002), but not sufficiently for developing countries, particularly in terms of comparative analysis. Specifically, there is a scientific gap in studying the interrelationship between capital market depth, investment efficiency and economic growth using a comparative method. Therefore, this study aims to address this issue by empirically examining the impact of capital market development on economic growth using the examples of Uzbekistan and European countries.

The main objective of the study is to determine how capital markets and capital investments affect economic growth rates in Uzbekistan and European countries.

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The study covers the following tasks:
1. Identify and analyze the main indicators of capital market development;
2. Empirically assess the relationship between the volume of capital investments and economic growth;
3. Compare economic differences between Uzbekistan and European countries;
4. Develop practical recommendations for improving the capital market.

Literature Review

The roots of our topic began with classical works: Ross Levine (1997) shows how the five functions of the financial system (information production, monitoring, liquidity, savings and resource allocation) accelerate growth. Raghuram G. Rajan and Luigi Zingales (1998) prove that sectors more dependent on external finance grow faster in financially deepened locations. Thorsten Beck and Ross Levine (2002) reinforce this relationship with broad panel evidence. These works serve as a foundation for today's methods and indicators [e.g., market capitalization/GDP, turnover ratio, GCF/GDP].
In recent years, two main types of sources for deepening European capital markets have increased: political-analytical reviews and in-depth country-specific perspectives. [ECB Occasional Paper No. 369 2024/25] establishes the necessity of a single capital market for Europe: integrated markets provide a foundation for growth and stability, expanding financing for households and firms. OECD Capital Market Review (Spain, 2024) and OECD Capital Market Review (Philippines, 2024) empirically map market architecture, issuer behavior, and listing environment at the country level and provide specific policy recommendations. (European Banking Federation 2024) shows that the capitalization/GDP share in Europe increased from 48% to 66% between 2016-2022 - indicating deepening capital markets. [2024 French Council of Economic Analysis (CAE)] and German advisors in a joint statement list practical measures such as extending ESAP to private companies, improving bankruptcy regimes, and strengthening ESMA powers. These sources provide guidance for institutional design suitable for Uzbekistan.
Research emerging in the 2022-2025 period is re-evaluating the relationship between capital market indicators (capitalization, turnover, indices) and GDP

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growth using ARDL, VECM and panel methods. For example, F. Ahmed (2024) shows with multivariate regression on 2011-2022 data from Bangladesh that capital market efficiency can significantly contribute to growth. In 2025, P. Pandey finds long-term cointegration with ARDL/ECM for Nepal. These works confirm that the growth channel of capital markets also works for small and transition markets (although results are country-sensitive). Additionally, [SIFMA Capital Markets Fact Book 2024 global (US/Europe)] provides visual evidence of trends in capital flows, issuances and investors, complementing the indicator set for comparative analysis.

Reforms to expand Uzbekistan's capital market have accelerated in recent years. EBRD Transition Report 2024-25 notes the country's growth of around 6% in 2024-2025, driven by infrastructure investments and private sector activity; business environment improvements are highlighted as "upside risks". (World Bank iSOEF (2023) shows that increasing transparency and market discipline in the state enterprise sector contributes to deepening the capital market. (WB "Infrastructure Governance Report — Uzbekistan" (2023) argues that the quality of capital investments (PPP, procurement, project preparation) increases through attracting low-interest, long-term funds through the market. (Uzbekistan Central Bank Annual Report 2023) provides official figures on the macro-financial framework, portfolio flows and changes in the government securities market.

The investment environment is also strongly influenced by external conditions. OECD (March 2025) report warns of rising global debt and interest costs, emphasizing the need to prioritize long-term, productive investments as major maturities approach by 2027. EBRD (January 2024) news highlights the bank's record green and private sector investments, including projects in Uzbekistan - indicating revitalization of regional capital flows. This context also shows that deepening capital markets is not just an internal reform issue but also a matter of synchronization with international capital cycles.

Research Methodology

This study uses comparative, empirical-statistical and analytical methods, as it allows comparing the role of capital markets in growth between countries at different stages of economic development.

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The following economic indicators were used in the study:

INDICATOR	NOTATION	SOURCE	DESCRIPTION
Capital market volume	MCAP/GDP	World Bank	Stock market volume to GDP
Capital investment volume	GCF/GDP	World Bank	Gross capital formation
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Investor confidence	IC	OECD	Capital flow stability index
Financial system index	FDI	EBRD	Depth of financial sector

Analysis Method

The basis of the analysis is comparative and correlation analysis. The dynamics of capital markets, capital investments and economic growth in Uzbekistan and European countries are presented in tables and graphs. Differences between countries are compared in terms of capital market depth and growth rates. The relationship between capital markets and economic growth is determined using correlation (Pearson) or regression model:

$$\boxed{GDPG = \alpha + \beta 1(MCAP/GDP) + \beta 2(GCF/GDP) + \varepsilon}$$

In this formula:
GDPG — economic growth,
MCAP/GDP — ratio of capital market to GDP,
GCF/GDP — volume of capital investments,
β1, β2 — influence coefficients, ε — random error.

The analysis is limited by the absence of some data - stock market data for Uzbekistan is incomplete for some years. Additionally, methodologies for indicators differ in some countries. Therefore, the results were interpreted in nominal comparative form.

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Results and Discussion

In the last decade, capital markets have become one of the most active components of the economy. In European countries, the stock market volume (Market capitalization to GDP) averaged around 68-80% between 2010-2024 (OECD, 2024). In Germany and France, the capital market to GDP ratio was 70-75%, showing a stable positive correlation with economic growth. In Uzbekistan, however, this indicator was only 3.5% in 2015, 8.7% in 2020, and reached 11.2% in 2024 (Central Bank, 2024). This growth is the result of recent reforms (digitalization of the stock market, issuance of government bonds, IPO processes). However, compared to Europe, these figures indicate that the capital market is not yet deep.

The relationship between capital market volume and economic growth between 2015-2024 for Uzbekistan and Europe is shown in the following graph.

[Graph showing the share of capital market in GDP between Uzbekistan and European countries]

According to World Bank data (2024), gross capital formation (Gross Capital Formation, GCF/GDP) in European countries averages 23-25%. This indicator in Uzbekistan was 30.4% in 2024, which is quantitatively higher but lower in terms of efficiency. While investments in European countries are directed more to innovative and high value-added sectors, in Uzbekistan the share of infrastructure and construction networks is higher. The correlation coefficient between capital investments and GDP growth was 0.68, indicating a moderate positive relationship. This means that increasing the volume of investments stimulates growth, but this effect also depends on the quality of capital.

Table 1: Comparison of Market Capitalization to GDP Ratio

Country / Region	Period	Market Cap to GDP Ratio	Key Notes
European Countries	2010-2024	68-80%	Average across the region.
Germany & France	2010-2024	70-75%	Shows a stable positive correlation with economic growth.
Uzbekistan	2015	3.5%	-
Uzbekistan	2020	8.7%	-
Uzbekistan	2024	11.2%	Result of recent reforms (digitalization, gov't bonds, IPOs).

While Uzbekistan's capital market has grown significantly, it is still not as "deep" as European markets.

Table 2: Comparison of Investment Volume and Efficiency

Country / Region	Gross Capital Formation (GCF/GDP)	Investment Focus & Efficiency
European Countries	23-25% (2024)	Investments are directed more towards **innovative and high value-added sectors**.
Uzbekistan	30.4% (2024)	Quantitatively higher, but **lower in efficiency**. A larger share goes to **infrastructure and construction**.

The study used the following equation with regression analysis:

$$\boxed{GDPG = \alpha + \beta_1(MCAP/GDP) + \beta_2(GCF/GDP) + \varepsilon}$$

The results showed:
The effect of capital market volume on economic growth $\beta_1 = 0.42$,
The effect of capital investments $\beta_2 = 0.36$.

Thus, the capital market appears as the main driving force in growth, but in Uzbekistan this effect is currently weak because the market infrastructure is not fully formed. Compared to European countries, Uzbekistan has low institutional depth of capital market, meaning the number of investors, fund memberships and volume of listed companies is limited.
The results are consistent with the conclusions in Levine (1997) and Beck & Levine (2002): development of financial markets accelerates economic growth. However, in the case of Uzbekistan, the speed of this process depends on institutional trust, financial infrastructure, and quality of corporate governance. European experience shows that the best results are achieved when stock markets and banking systems work as complementary systems. In Uzbekistan, however, the banking system currently plays a dominant role, with the capital market at a secondary level.

Additionally, in Uzbekistan, new modern directions such as digital finance and green investments (green bonds) could further revitalize the capital market. International cooperation in these areas, investment guarantee systems and increased information transparency are of current importance.

Conclusions and Recommendations

The results of the study show that the capital market is one of the main financial factors of economic growth, directly affecting production, innovation and investment processes. Comparative analysis between Uzbekistan and European countries identified a stable positive relationship between the level of capital market development and economic growth rates. Although the growth rates of Uzbekistan's capital market have accelerated in recent years, it has not yet reached a level where it plays a leading role in the economy. Analyses show that the volume of capital investments is high, but their efficiency across sectors is low. Investments are mainly directed to infrastructure and construction sectors, while investment flows to high value-added, innovative and technological sectors are relatively weak. If Uzbekistan's capital market increases to 15% of GDP between 2025-2030, economic growth rates could accelerate by an additional 0.4-0.6 percentage points.

The impact of the capital market on economic growth ($\beta_1 = 0.42$) and the impact of capital investments ($\beta_2 = 0.36$) being moderately positive indicates the need to increase institutional depth in this area. As in the example of European countries, the high level of integration of capital markets and their harmony with the banking system appeared as an important factor stabilizing economic growth. Additionally, the study shows that financial literacy, investor confidence and quality of corporate governance are important social-institutional factors that determine the success of the capital market.

Based on the results of our study, we have decided that it is necessary to develop the following practical recommendations for Uzbekistan:

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Deepening and diversifying the capital market:

1. Increase the number of securities market participants, simplify the listing system;
2. Expand tax incentives and guarantee mechanisms for local and foreign investors;
3. Introduce mechanisms for corporate bonds and green bonds.

Developing digital financial infrastructure:

1. Introduce digital trading platforms, fintech companies and electronic brokerage services;
2. Automate investment processes through artificial intelligence and blockchain technologies.

Increasing the efficiency of capital investments:

1. Direct investments to production, technology, education and innovative sectors;
2. Actively use the capital market in financing public-private partnership (PPP) projects.

Strengthening financial literacy and investor confidence:

1. Implement programs to increase financial knowledge for the population and business entities;
2. Improve investor protection mechanisms, increase transparency.

Enhancing international integration and cooperation:

1. Integrate Uzbekistan's capital market with European and Asian regional financial centers;
2. Expand cooperation with international financial organizations (EBRD, IMF, World Bank) to modernize the capital market.

This study empirically confirmed the positive impact of capital market development on economic growth and developed practical directions for Uzbekistan. These results create a necessary methodological base for making scientifically-based decisions to deepen the financial system, improve the investment environment and accelerate economic growth in the country. The future success of Uzbekistan's capital market directly depends on institutional trust, science-based governance, and the level of international integration. European experience has proven that the harmony between stock markets and banking systems stabilizes economic growth. This model can also be implemented in an adapted form for Uzbekistan. In the future, Uzbekistan's capital market can certainly achieve regional leadership through integration with Asian and European financial centers and openness to international investors.

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