American Journal of Interdisciplinary Research and Development
ISSN Online: 2771-8948
Website: www.ajird.journalspark.org
Volume 44, September- 2025

GLOBAL TRENDS IN VENTURE CAPITAL IN INNOVATIVE DEVELOPMENT

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Abstract:
This work analyzes the impact of venture capital (VC) investments on innovative development on a global scale and the main trends in recent years. The volatility of global VC flows is revealed based on the investment explosion in 2020-2021, the decline in 2022-2023, and the observed investment recovery in the field of generative artificial intelligence in 2025. It will also show the role of promising venture capital areas, in particular in the fields of AI, green technologies, and digital security. During the work, proposals will be developed for developing countries, and practical recommendations will be given on the development of innovative infrastructure and cooperation with international VC funds.

Keywords: Venture capital (VC), Innovative development, Startups, Generative artificial intelligence (AI), Investment trends, Global economy, Technological infrastructure, Mega-round, Unicorn companies, Digital transformation, Green technologies, Developing countries, Capital inflow, VC funds, Innovative ecosystem.

Introduction

In the modern world, innovative technologies and startups remain the main driving force of the economy. Venture capital investments play an important role in the implementation of these innovative ideas. In recent years, the global venture capital market has undergone significant changes, and there is a need for a deep analysis of these trends. The technological revolution, digitalization processes, and new business models have fundamentally changed the venture capital industry[1].

Geographically, the distribution of venture capital investments is also undergoing significant changes. Traditionally directed towards the US and European markets, investments are now expanding towards the Asia-Pacific region, China, India, and other emerging markets. This change is forming new centers of the global innovation ecosystem and further complicating the competitive environment[2].

[1] Bain & Company. (2025). *Global Venture Capital Trends: The Latest Industry Report*. Retrieved from https://www.bain.com/insights/global-venture-capital-outlook-latest-trends-snap-chart/

[2] WIPO. (2024). *2024 Venture Capital Outlook: From Freefall to the First Signs of Stabilization?* Retrieved from https://www.wipo.int/en/web/global-innovation-index/w/blogs/2024/2024-venture-capital

Advanced technologies such as artificial intelligence, machine learning, biotechnology, and quantum computing are defining new directions for venture capital investments. Such technologies not only offer the opportunity to earn a large income, but also have the potential to have a significant social impact on society. Therefore, investors are forced to take into account not only traditional financial indicators, but also ESG (environmental, social, and management) criteria[3].

The development cycle of startups is also undergoing significant changes. Now companies are more inclined to develop longer-term strategies and delay the IPO (Initial Public Offering) processes. This situation leads to a review of the investment strategies of venture capital funds and the search for new financing instruments. The number of unicorn companies (startups valued at $1 billion) is also growing sharply.

Institutional investors, pension funds, insurance companies, and other large financial institutions are increasingly entering the venture capital market. This situation brings greater liquidity to the market, but at the same time intensifies competition and increases prices. As a result, venture capital funds are forced to develop new differentiation strategies.

The regulatory environment and state policy also have a significant impact on venture capital trends. Different countries are developing special programs for the development of their innovation ecosystems and are looking for ways to stimulate venture capital investments. These processes are intensifying competition between national innovation systems and leading to the redistribution of global investment flows[4].

In the future, the venture capital industry is expected to face even greater changes. Digital currencies, Web3 technologies, the metaverse, climate technologies, and other new directions are further complicating the investment landscape. Therefore, constant analysis and monitoring of venture capital trends is a necessary condition for success in the modern business environment.

Literature Review

In the process of analyzing the literature on the topic, scientific research on global venture capital trends in innovative development was conducted by several leading economists and specialists of the world. Among them, Kostrov Alexey Viktorovich conducted an in-depth analysis of the interaction of state and market mechanisms in the venture capital industry. It studies the basic principles and forms of venture financing and assesses the effectiveness of government incentives[5].

Yerik Aubakirov sees Central Asia as a new frontier on the global venture capital map. It

[3] BIP Ventures. (2025). 2024 Venture Capital Investment Trends and Impacts Report. Retrieved from https://www.bipventures.vc/news/2024-venture-capital-investment-trends-and-impacts-report

[4] CB Insights. (2025). *State of Venture 2024 Report*. Retrieved from https://www.cbinsights.com/research/report/venture-trends-2024/

[5] Kostrov Aleksey Viktorovich HSE University. (2025). Венчурный капитал - курс. https://www.hse.ru/edu/courses/389881214

assesses the potential of Central Asia to become a global innovation hub, emphasizing the strategic location of the region, large domestic markets, and the ability to quickly adopt digital technologies[6].

Mike Wright was one of the most influential theorists in the field of venture capital. He conducted fundamental research on the role of venture capital in entrepreneurial finance, venture capital governance, syndication, and the creation of state-owned companies[7].

Steven Kaplan revealed the internal mechanisms of the VC industry based on a comprehensive study involving 885 institutional venture capitalists. His research showed that venture capitalists consider the management team more important than the product or technology, and the team is the most important factor in success or failure[8].

Josh Lerner analyzes the role of venture capital in the innovation ecosystem from an economic point of view. He is particularly interested in the impact of venture capital on R&D investments, patent activity, and technological spillover effects[9].

Stanford scientists Will Gornall and Ilya A. Strebulaev conducted a quantitative analysis of the impact of venture capital on the US economy. Their research showed that venture-backed companies account for 41% of U.S. market capitalization and 62% of R&D spending by state-owned companies[10].

Ahmed I. Kato empirically analyzed the effectiveness of venture capital in the context of Africa. Her research confirmed higher rates of venture-financed enterprises in the Uganda market compared to non-financed enterprises[11].

Research Methodology

In innovative development, such methods of economic research as analysis of research conducted by world scientists on global venture capital trends, collection of all data on the topic, comparison, and logical thinking were used.

Analysis and discussion of the results

Analysis of the current state and trends of the global venture capital market shows that the industry has undergone a significant transformation in recent years. Although global venture capital investments grew from $349.4 billion to $368.3 billion in 2024, transaction activity decreased by 19% annually, falling to 27,000 transactions. These statistical data indicate, on the one hand, an increase in the volume of investments, and on the other hand,

[6] Yerik Aubakirov Astana Hub. (2025). Venture Capital Markets in Caucasus and Central Asia. https://astanahub.com/en/article/kazakhstan-stal-liderom-po-chislu-venchurnykh-sdelok-v-tsentralnoi-azii-i-kavkaze-za-2023-god

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[10] Will Gornall va Ilya A. Strebulaev Stanford GSB. (2025). Venture Capital Initiative. https://www.gsb.stanford.edu/faculty-research/labs-initiatives/vci

[11] Ahmed I. Kato Journal of Innovation and Entrepreneurship. (2022). Empirical examination of relationship between venture capital financing. https://innovation-entrepreneurship.springeropen.com/articles/10.1186/s13731-022-00216-5

a decrease in the number of transactions. Such a contradictory situation reflects the dominance of large-scale transactions in the venture capital market and a more selective approach of investors. Especially mega-rounds in the fields of AI and biotechnology are significantly changing the overall statistics.

The dominance of artificial intelligence and sector diversification are among the most important features of the modern venture capital landscape. In 2024, global venture capital financing for AI startups reached $131.5 billion, which is one-third of all venture capital investments. In the US, AI-related enterprises accounted for 46.4% of total venture capital transactions and 28.9% of the total number of transactions. This data clearly shows how AI technologies are redirecting venture capital flows. However, in this case, problems arise for companies in other sectors, such as limited financial resources and increased competition. The dominance of AI creates a two-tiered system in the market, creating a huge gap between AI and non-AI companies.

Geographical distribution and regional shifts reflect significant structural changes in the global venture capital market. In the first half of 2024, North America led with 37%, the Asia-Pacific region - 35%, and Europe - 25%. However, in Central Asia and the South Caucasus, the volume of venture financing has increased 5.5 times over the past five years, which indicates the emergence of new innovation centers. In 2024, Uzbekistan attracted $17.5 million in venture financing, which is a significant increase compared to $6.3 million in 2023. This geographic diversification makes the global venture capital system more complex and multipolar.

Changes observed in the stages of investment and the company's development cycle reflect the new dynamics of the venture capital ecosystem. At the beginning of 2025, average transaction volumes at all financing stages increased sharply, which is associated with a strong increase in investments in generative AI and biotechnology. In 2024, companies supported by venture capital from the first financing to the IPO expected an average of 7.5 years, which is 2 years more than in 2022. This trend indicates the desire of startups to remain private in the long term and the inconvenience of IPO markets. As a result, venture capital funds are forced to develop longer-term investment strategies.

Exit strategies and liquidity issues are among the biggest challenges in the current venture capital environment. In Q1 2025, new commitments could reach only $10 billion, bringing this year to the lowest annual financing figure in a decade. This situation creates difficulties for venture capital funds in attracting new capital. Although 23 rounds worth over $1 billion were completed in 2024, the slowness of the IPO market and limited M&A activity are complicating the exit paths for investors. This situation, in particular, leads to a change in the attitude of state pension funds and other institutional investors to venture capital.

Analysis of the directions of technological innovation and development shows that venture capital acts not only as a financial instrument, but also as a catalyst for technological progress. In 2025, the total attracted capital in the global venture capital market is projected to reach $286.30 billion. Areas such as AI, quantum computing, biotechnology,

climate technology, and Web3 are generating new innovative waves. However, these technologies are still in the development stage, and there is no clarity about their long-term effectiveness and market potential. Moreover, these sectors are highly risky and require great patience and deep technical understanding from investors.

Analysis of institutional investors and market dynamics shows that institutional changes are taking place in the venture capital market. Global venture capital investments grew from $118 billion in the first quarter of 2024 to $126 billion in the first quarter of 2025. While the active entry of pension funds, insurance companies, and sovereign wealth funds brings greater liquidity to the market, it simultaneously intensifies competition and increases valuations. While this situation expands financial opportunities for startups, it increases the need for differentiation and specialization among venture capital funds. As a result, funds are forced to create their own unique value proposition.

Future forecasts and strategic conclusions determine the future development trends of the global venture capital industry. While AI estimates continue to resist gravity, other sectors have undergone the necessary adjustments. This situation creates a division in the venture capital market between "owners and non-owners." Successful venture capital strategies are expected to become more selective and specialized in the future. The regulatory environment, macroeconomic factors, and the pace of the technological revolution are crucial in determining the direction of venture capital flows. Also, the increasing importance of sustainability and ESG criteria leads to an increase in the influence of social and environmental factors on venture capital decisions.

Global venture capital (VC) funding came in at $109 billion in the second quarter of 2025, dropping 17% quarter over quarter. But take out OpenAI's massive deal in the first quarter, and funding held firm. The US captured 64% of global funding, as its strong VC ecosystem withstood broader volatility. Applied AI was the standout with several major bets.

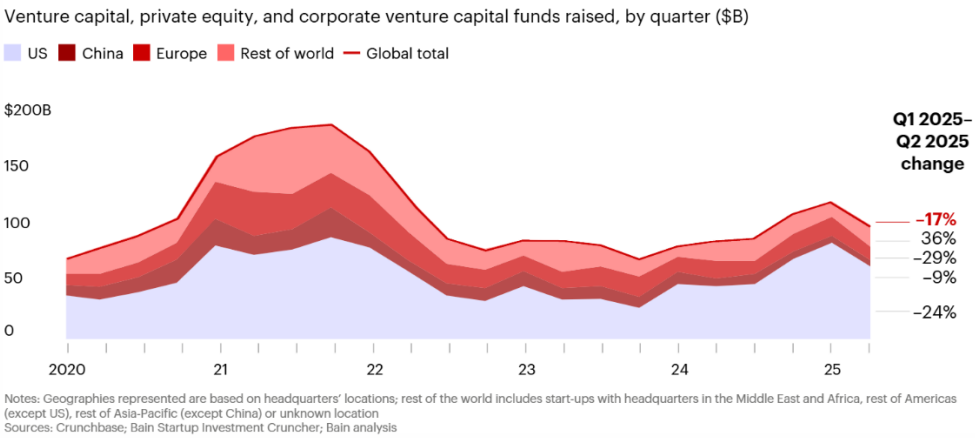

Figure 1. Global venture capital funding dropped in the second quarter[12]

[12] https://www.bain.com/insights/global-venture-capital-outlook-latest-trends-snap-chart/

In contrast, Europe's VC activity cooled. Ongoing macroeconomic uncertainty, high interest rates, and sluggish IPO markets weighed on sentiment. China's funding was also subdued due to capital pressures. India, however, emerged as a bright spot. Investors showed strong interest in fintech and mobility, reflecting renewed confidence in scalable tech.

Average seed-stage deal sizes increased, powered by outliers such as Thinking Machines Lab's $2 billion funding round. While late-stage deal sizes dipped on the surface, this largely reflects a normalization following OpenAI's outlier $40 billion funding round last quarter.

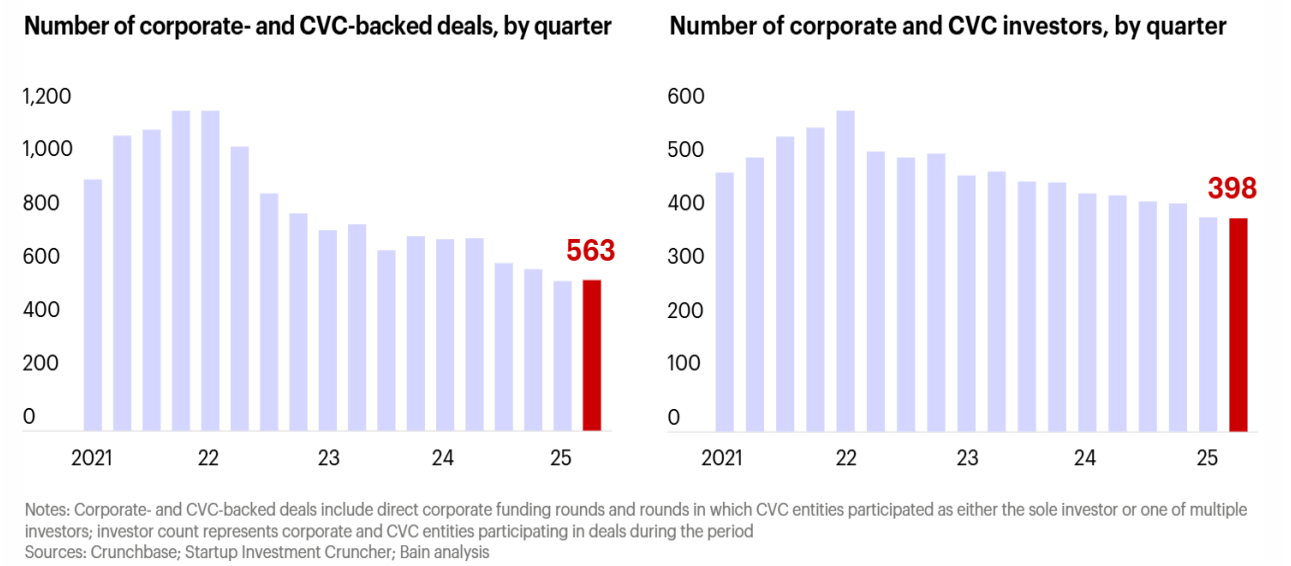

Figure 2. Corporate- and corporate venture capital (CVC)-backed deal activity was flat[13]

Corporate- and corporate venture capital (CVC)-backed activity was largely flat. Consistent with recent years, corporates and CVCs participated in around 36% of total VC deal value, reflecting a steady appetite for generative AI, hard tech, and, increasingly, capital-intensive plays.

[13] https://www.bain.com/insights/global-venture-capital-outlook-latest-trends-snap-chart/

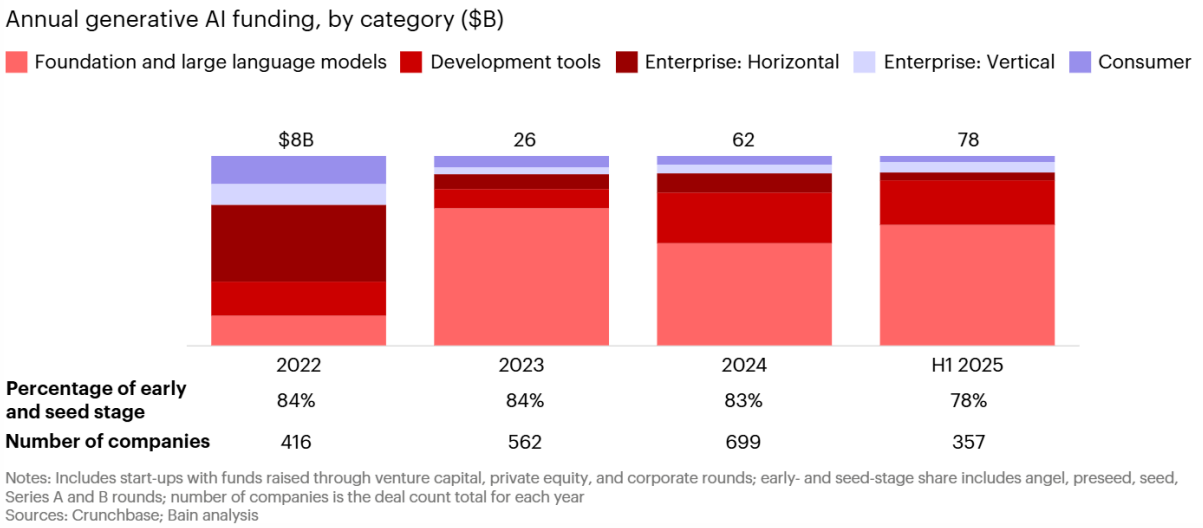

Figure 3. Generative AI funding momentum is shifting toward development tools[14].

Generative AI funding continues to grow rapidly, with funding in the first half of 2025 already surpassing the 2024 total. Software and AI companies now account for around 45% of VC funding. While foundation and large language models still draw the bulk of funding, development tools saw the highest quarterly funding growth, signaling a gradual shift.

Summary and Suggestions

Developing economies, such as Uzbekistan, need to strengthen their innovation infrastructure to effectively utilize global VC flows. First of all, it is necessary to increase the number of tax benefits, grant programs, technology parks, and incubators for startups. It is also possible to expand the opportunities for local innovators to enter global networks by establishing strategic partnerships with foreign VC funds. Establishing special venture funds specializing in AI and technological innovations will play an important role in attracting regional investments. Coordinated political stability by governments, a transparent legal environment for investors, and a system for protecting intellectual property - all these are decisive factors in the formation of a sustainable VC ecosystem that serves innovative development.

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