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Development Directions of the Venture Capital Market in an Innovation Oriented Economy

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***Abstract*—** In an innovation oriented economy, the venture capital market is one of the key institutional mechanisms for financing high technology firms and companies with rapid growth potential. The article analyses the economic nature of venture capital, its main features that distinguish it from traditional bank financing, the portfolio approach to risk management and the logic of "exit" mechanisms. On the basis of global experience, the roles of seed, early, growth and late stage segments, the structural patterns of capital flows into priority domains such as artificial intelligence, climate technologies and deep tech, and emerging regional divergences are examined. The main challenges arising from the institutional, ecosystem and market structure of the venture capital industry – including legal and regulatory gaps, a shortage of quality deal flow, weak exit markets and high concentration of capital – are systematised. The article substantiates key development directions such as improving the legal and regulatory environment, broadening the base of institutional investors, promoting public–private co investment and fund of funds models, strengthening the innovation ecosystem and enhancing sectoral focus. In the context of Azerbaijan, the formation of a venture capital market is shown to be of strategic importance for technological entrepreneurship, regional development and the construction of a competitive innovation system, and policy recommendations are put forward regarding priority measures in this field..

***Keywords*—** Venture capital; risk capital; innovation oriented economy; startup financing; public venture capital; fund of funds mechanism; blended finance; artificial intelligence; climate technologies; innovation ecosystem; institutional investors.

INTRODUCTION

The main characteristic of an innovation-oriented economy is its capacity to create new value on the basis of knowledge, technology and intangible assets. In such an economy, the majority of firms with high growth potential face elevated risk and uncertainty in the early stages of their activity, possess a weak base of real collateral and generate negative or volatile cash flows for an extended period. Consequently, their access to traditional bank lending is limited, and a specific segment of the financial market – often referred to as the "funding gap" – emerges, which is precisely the space filled by venture capital institutions.

The venture capital market is doubly important for an innovation-oriented economy. On the one hand, it provides long-term capital to high-risk but high value-adding projects. On the other hand, it transfers to startups a set of intangible support instruments such as management expertise, mentoring and access to technological and market networks. Contemporary global trends show that, as the volume of venture capital increases, innovation intensity, patenting activity and high-technology exports also rise, with this relationship being particularly evident in fields such as artificial intelligence and climate technologies. For countries integrating into an innovation-driven development path, the formation and deepening of the venture capital market is therefore not only a financial sector reform, but also an integral component of industrial, science and technology policy.

The Economic Nature of Venture Capital

Venture (risk) capital is characterised as a form of long-term equity capital invested in companies that have high growth potential but also a high probability of failure. In this financing relationship, the investor

acts not as a creditor but as a shareholder and derives the main part of returns not from dividends but from the overall increase in the company's value, that is, from capital gains realised at the "exit" stage. Exit mechanisms most commonly include mergers and acquisitions (M&A), initial public offerings (IPOs), secondary sales to strategic investors or the transfer of stakes to other financial investors. As a result, the investor's interest is focused less on the company's short-term profits and more on long-term value creation.

The venture capital market is usually divided into seed, early-stage, growth and late-stage segments. In seed and early-stage segments, technological and market uncertainty is at its highest; financial performance is not yet formed and information asymmetry is particularly acute, making investment decisions more complex and requiring higher risk premia. Therefore, business angels, accelerators, university-based funds and public co-investment schemes play a special role in this segment. In the growth and late-stage segments, business models become clearer, the competitive advantages of the technology are tested, and in addition to venture capital funds, interest from private equity funds and strategic investors intensifies, facilitating the attraction of larger volumes of capital for scaling and international expansion.

The main difference between traditional bank credit and venture capital lies in their approach to risk and cash flow. Banks typically work with borrowers that have stable cash flows, real collateral and a low probability of default.

Venture capital, by contrast, accepts a high probability of default, applies a portfolio approach and seeks to achieve high overall returns on the portfolio by relying on a small number of highly successful investments that compensate for losses on failed projects.

In essence, the venture capital model is built on a "few winners pay for the losers" principle, which is particularly suitable for financing radical innovations in an innovation-oriented economy.

Global Development Trends

In recent years, the global venture capital market has undergone significant changes in both scale and structure, signalling a systemic transformation driven by shifts in the macroeconomic environment and technological priorities. By the mid-2020s, although the aggregate volume of venture investments slowed in some regions, capital concentration increased, and a smaller number of larger funding rounds came to dominate. In the United States, for example, around one-third of total venture capital in 2025 was directed to the top 1 percent of companies by deal size, illustrating a typical "winner-takes-most" structure and indicating that markets have become more selective, channeling large amounts of capital only to the strongest projects.

From a sectoral perspective, artificial intelligence, climate technologies, deep tech and biotechnology have moved to the centre of attention. OECD estimates indicate that by 2025 AI-focused startups had attracted more than half of total global venture investments, with particularly rapid growth in the United States, China and the European Union. At the same time, venture capital directed to green and climate technologies reached historical highs during 2021–2024, with substantial increases in investments in renewable energy, energy efficiency, decarbonisation solutions and the circular economy.

Strong divergence is also observed across regions. While North America and Western Europe retain leading positions, regions such as Central and Eastern Europe, Latin America and Southeast Asia have recently experienced notable leaps through the emergence of new funds, ecosystem players and public support programmes.

Nevertheless, in these regions the share of early-stage deals remains modest and exit markets relatively weak, constraining the long-term sustainability of the venture capital industry.

This structure, on the one hand, ensures rapid scaling of the most competitive innovation projects, but on the other hand, complicates access to finance for weaker ecosystems and regions.

Development Directions for the Venture Capital Market

The healthy and sustainable development of the venture capital market rests on several key directions.

First, improving the legal and regulatory framework is essential.

Protecting investor rights, ensuring fast and effective enforcement of contracts, creating a favourable regime for the issuance and circulation of equity instruments and providing tax incentives for investments in startups are among the main tools in this area.

These measures are fundamental for both safeguarding investors and ensuring transparency in the capital-raising process for startups.

Second, expanding the base of institutional investors is critical. Allowing pension funds, insurance companies, sovereign wealth funds and large corporations to allocate limited but systematic portions of their portfolios to venture capital assets can form a long-term and more stable flow of capital into the market.

This increases the size and diversification of funds and strengthens the market's resilience to shocks. International experience, including that of the World Bank and other development finance institutions, shows that fund-of-funds models can be an effective way to both nurture local fund managers and crowd in private capital.

The active participation of institutional investors and the use of fund-of-funds structures can add both scale and depth to the venture capital market.

Third, developing blended finance mechanisms between the public and private sectors is important. Where government venture funds enter the market as dominant players, they may cause crowding-out effects.

However, when the state acts as a co-investor, guarantor or first-loss provider, it partially reduces the risk borne by private investors and stimulates the mobilisation of additional capital.

This model is particularly effective for deep tech and climate technology projects, which have long commercialisation horizons.

Fourth, raising the quality of the innovation ecosystem is a key priority.

Establishing technology transfer offices at universities, expanding accelerator and incubator networks, improving access to prototyping facilities and laboratories and subsidising patenting and legal advisory services are essential conditions for creating a robust pipeline of investable projects.

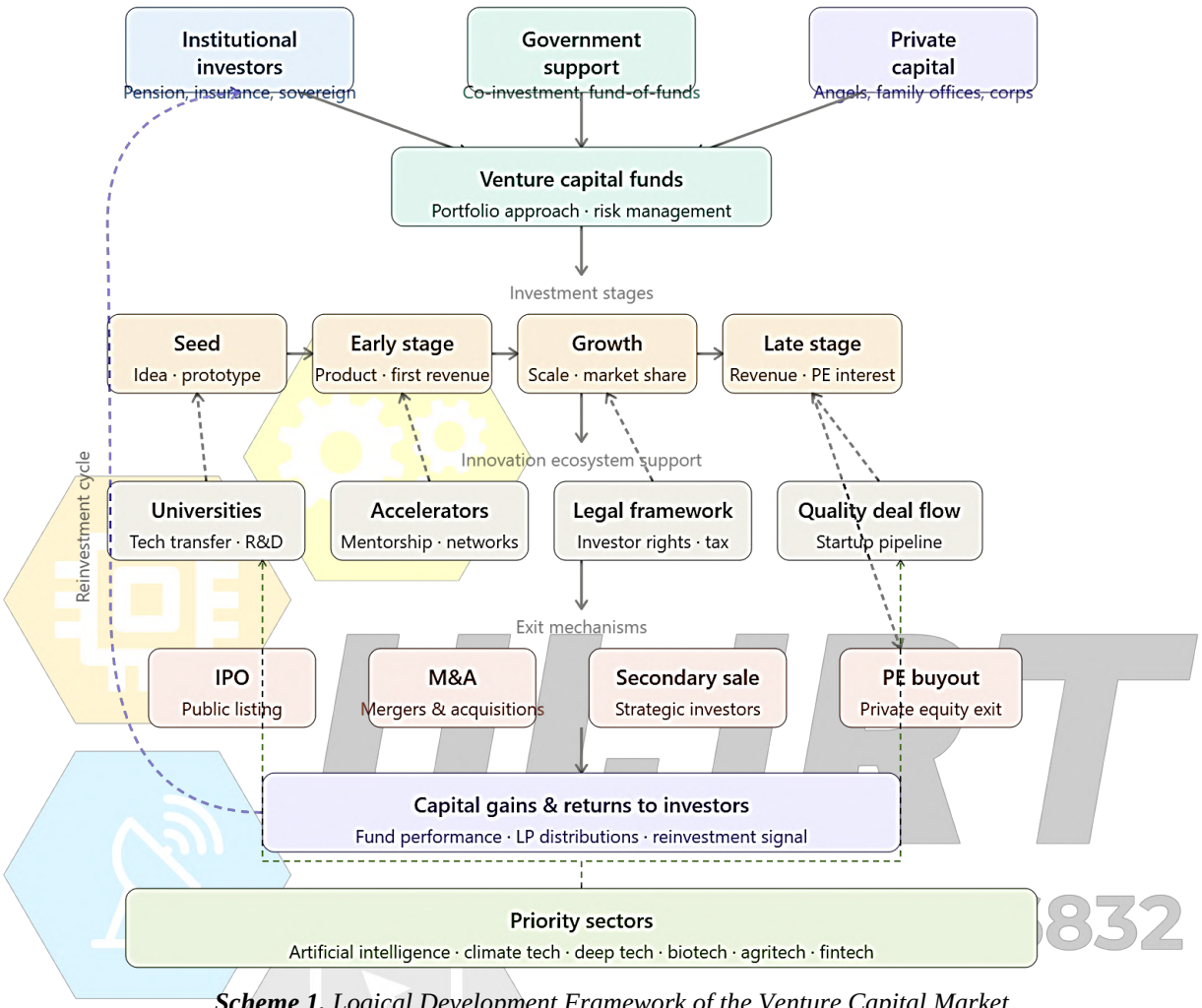
Such measures help to mitigate the "plenty of money, but no projects" problem. Even if the venture capital market is liquid, it cannot deepen if the flow of quality projects is insufficient.

Finally, clearly defining sectoral and regional priorities is crucial. Recent experience shows that for countries with limited resources, a focused venture strategy centred on a few strategic niches – for example, AI applications, climate technologies, agri-tech and industrial digitalisation – yields better results than spreading resources thinly across many sectors.

Focus enhances the efficiency of both policy instruments and capital allocation.

The following scheme summarises the logic of the development of the venture capital market in an innovation-oriented economy.

Scheme 1. Logical development scheme of the venture capital market



Scheme 1. *Logical Development Framework of the Venture Capital Market*

The scheme shows that the venture capital market is not an isolated financial mechanism but part of a mutually reinforcing cycle within the innovation ecosystem. While public support and co-investment play a significant role in the early stages, long-term sustainability requires the parallel development of private fund managers, exit markets and entrepreneurial capabilities.

Possible Implications for Azerbaijan

For Azerbaijan, which aims to build an innovation-oriented economy, the formation and development of a venture capital market should be regarded as a strategic priority in establishing a financial foundation for technological entrepreneurship. At present, startups rely mainly on grants, founders' own funds and limited debt instruments, which slows down the scaling and commercialisation of innovation projects. Therefore, it is particularly important to adapt the legal and regulatory framework to venture capital instruments, create a clear normative environment for convertible securities and equity instruments, and introduce tax incentives for investments in startups.

At the same time, enabling domestic pension funds, insurance companies and large corporations to invest, within defined quotas, in venture capital funds, and

implementing public–private co-investment platforms and fund-of-funds models can help generate a long-term and relatively stable flow of capital into the market. The establishment of technology transfer offices at universities, the expansion of accelerator and incubator networks and the creation of prototyping and pilot infrastructures will enhance the quality of investable projects and thus stimulate the deepening of the venture capital market.

Given Azerbaijan's resource and market structure, the formulation of a focused venture strategy centred on a limited number of priority niches – such as agri-tech, energy transition technologies, industrial digitalisation, fintech and AI applications – can support both domestic demand and export potential. In this way, the venture capital market can become an important lever for regional development as well, by facilitating the emergence and scaling of innovation-driven enterprises outside the capital region.

CONCLUSION

The analysis demonstrates that, in an innovation-oriented economy, the venture capital market is an indispensable mechanism for financing high-risk but high value-adding entrepreneurial activity and for filling the "funding gap" that traditional bank lending cannot cover. Global experience confirms that, as the volume and institutional quality of venture capital increase, indicators such as innovation intensity, patent activity, high-technology exports and labour productivity also improve, especially in strategic fields such as artificial intelligence and climate technologies. However, legal and regulatory gaps, a narrow base of institutional investors, weak exit mechanisms and uneven development of the innovation ecosystem remain key factors that prevent the venture capital market from realising its full potential.

Under these conditions, an effective development strategy should not be confined to regulatory reforms alone. It must be based on a comprehensive approach that tightly integrates the venture capital market with industrial, science, technology and digital transformation policies. If legal and institutional frameworks are improved, fund-of-funds and blended-finance instruments are introduced, institutional investors are mobilised, the quality of the innovation ecosystem is enhanced and policy efforts are focused on selected priority sectors, the venture capital market can evolve not only into a channel for startup financing but also into one of the main pillars of long-term innovation, productivity and competitiveness growth.

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