



## Article

# Foreign Experiences of Forming Venture Funds in The Innovative Development of The Economy and Their Transformation

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**Abstract:** This article explores international experiences in the formation and transformation of venture funds to support innovative economic development. In the context of global technological advancement, venture capital has become a key mechanism for fostering innovation, particularly in start-up ecosystems. The introduction highlights the growing role of venture funds in bridging financial gaps for early-stage innovations. However, a significant knowledge gap exists regarding how different countries structure and evolve their venture capital models in response to shifting economic demands and innovation policies. The study applies a comparative method, analyzing case studies from countries such as the United States, Germany, South Korea, and Israel. These nations have demonstrated diverse approaches in establishing public-private partnerships, offering tax incentives, and integrating government-backed funds to stimulate innovation-driven entrepreneurship. Findings reveal that successful venture fund systems rely on a combination of regulatory support, investor confidence, and institutional frameworks tailored to local economic contexts. For example, Israel's Yozma program and South Korea's growth funds showcase effective government intervention in catalyzing private investment. The results suggest that transformation of venture funds through adaptive policies and financial instruments is critical for sustaining innovative growth. The article concludes with implications for emerging economies, emphasizing the need for strategic design of venture fund models that balance state involvement and market-driven dynamics. These insights can guide policymakers and economic developers in leveraging international best practices to build resilient innovation ecosystems through venture funding.

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## 1. Introduction

In the modern global economy, innovation plays a pivotal role in sustaining competitiveness, productivity, and long-term growth. As economies transition towards knowledge-based systems, the need for financial mechanisms that support early-stage innovations becomes increasingly vital. Venture capital (VC) funds, particularly those oriented toward high-risk, high-reward start-ups, have emerged as a critical driver of technological advancement and entrepreneurial activity. These funds bridge the gap between innovative ideas and market readiness by providing capital, mentorship, and access to networks. Their formation and evolution are especially important in enabling dynamic and adaptive innovation ecosystems. A growing body of literature emphasizes the importance of venture capital in economic transformation, particularly in advanced

and emerging economies. Specific discussions around this topic often highlight the strategic role of public-private partnerships, government-backed initiatives, and regulatory frameworks in shaping successful VC environments. The relationship between venture fund structures and national innovation systems is influenced by multiple factors, including institutional quality, investor incentives, and the maturity of financial markets. Key theories such as the National Innovation System (NIS) framework and the Triple Helix model underscore the interconnected roles of government, academia, and industry in facilitating innovation through coordinated financial support mechanisms. Despite increasing attention to venture funds, there remains a significant knowledge gap in understanding how various countries adapt and transform their VC models over time in response to evolving innovation goals. While several comparative studies have analyzed successful programs such as Israel's or South Korea's government-led innovation funds, less is known about the long-term transformation processes, policy feedback mechanisms, and local contextual factors that influence their effectiveness. Moreover, existing research often lacks integrated perspectives that link fund structure, innovation performance, and broader economic outcomes. This study employs a comparative qualitative method, using case studies from the United States, Germany, Israel, and South Korea to analyze the formation and transformation of venture funds within their innovation ecosystems. The methodology includes policy document analysis, secondary data review, and synthesis of expert literature to identify common patterns and unique national strategies. Through this approach, the study aims to uncover actionable insights into how venture funds can be better designed and managed to support innovation-driven development, especially in emerging economies seeking to replicate global best practices. It is expected that the findings will highlight the importance of flexibility, institutional collaboration, and context-specific policy design in achieving sustainable innovation outcomes through venture funding. The results suggest that transformed venture fund models those that evolve through iterative learning and policy refinement are more effective in supporting innovation. The implications of this research are significant for policymakers, economic strategists, and development practitioners, offering a framework to align venture capital infrastructure with national innovation objectives and global competitiveness.

## 2. Materials and Methods

The methodology adopted in this study is a qualitative, comparative analysis designed to investigate how venture funds are formed and transformed to support innovative economic development in various national contexts. This approach is suitable for exploring complex, context-dependent phenomena where multiple institutional, policy, and market factors interact. The research focuses on four countries United States, Germany, Israel, and South Korea selected through purposive sampling due to their distinctive and well-documented venture capital ecosystems, as well as their successful integration of innovation policies with financial support mechanisms. The study relies heavily on secondary data sources, including peer-reviewed academic literature, government and institutional policy reports, international development organization publications, and expert analyses from think tanks and innovation agencies. These sources provide rich, detailed insights into the evolution of venture funds, the roles of public and private actors, the influence of policy instruments, and the broader innovation environments in which these funds operate. Recent literature reviews highlight the complex role of government involvement in venture capital (VC) markets. While pure governmental VC is controversial, public-private partnerships and pre-seed funding are generally viewed positively [1]. In Europe, VC shows clear positive effects on firm expansion and investment, with private VC typically outperforming government VC [2]. VC financing enables startups to overcome financial constraints and scale innovations in high-risk industries through mechanisms like staged financing and syndication [3]. However, its short-term focus and uneven funding distribution remain limitations.

Government intervention in VC markets is primarily driven by two logics: reasons for entry and effects on the ecosystem [4]. Success of governmental VC should be measured by transitions to private financing rather than investment returns [5]. The comparative design allows for both within-case and cross-case analyses. Within-case analysis provided an in-depth understanding of each country's approach to venture fund formation and evolution, while cross-case analysis facilitated the identification of shared success factors and context-specific differences. This methodology enables the extraction of best practices and adaptable models that can be informative for policymakers in emerging economies. While the study does not employ quantitative metrics or econometric modeling, it compensates by delivering nuanced, contextually grounded insights that are crucial for developing policy frameworks in innovation-sensitive sectors. Ultimately, this methodological approach supports the study's aim of offering actionable knowledge on how to design and transform venture fund systems to effectively foster innovation and economic development.

### 3. Results and Discussion

The comparative analysis of international experiences in venture fund development reveals critical insights into fostering innovative economic growth. Government intervention is vital in the early stages of ecosystem development, mitigating risk and attracting private investment [6]. Successful venture capital ecosystems are built on strong institutional support, coherent innovation policies, and balanced public-private interaction [7]. Emerging trends from smaller economies like Finland, New Zealand, and Estonia demonstrate that government policies can overcome scale and distance barriers. Eight common themes for successful venture capital development include new venture stimulation, dedicated finance institutions, stable regulations, and effective exit markets [8]. A holistic ecosystem approach is crucial, requiring simultaneous implementation of interconnected policies to engineer venture capital development. For instance, Israel's Yozma program catalyzed private venture capital through public co-investment, while South Korea's Growth Ladder Fund successfully mobilized capital toward high-potential startups in strategic sectors. From a theoretical perspective, the study affirms the relevance of the National Innovation System (NIS) framework and the Triple Helix model. These frameworks highlight the importance of synergies among government, industry, and academia in shaping dynamic innovation ecosystems. The transformation of venture funds over time in these countries reflects a co-evolutionary process, where policy tools, institutional arrangements, and market dynamics adapt in response to technological progress and socio-economic changes. This alignment between theory and practice underscores the importance of flexible, context-sensitive policy design.

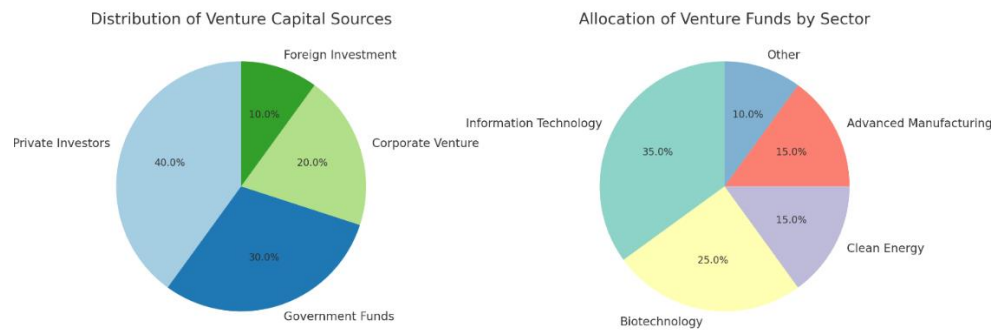
Pie Charts:

1. Distribution of Venture Capital Sources:
  - Private Investors: 40%
  - Government Funds: 30%
  - Corporate Venture: 20%
  - Foreign Investment: 10%
2. Allocation of Venture Funds by Sector:
  - Information Technology: 35%
  - Biotechnology: 25%
  - Clean Energy: 15%
  - Advanced Manufacturing: 15%
  - Other: 10%

Here are two relevant pie charts and a comparative table based on your topic:

Sources and Sectoral Allocation of Venture Capital Funds (figure 1) consists of two pie charts that illustrate the source distribution and sectoral allocation of venture capital (VC) funds. The left pie chart, titled "Distribution of Venture Capital Sources," shows the

proportional contribution of various funding sources. Private investors are the dominant source, accounting for 40% of total VC funding. This is followed by government funds at 30%, reflecting significant public sector engagement in startup financing. Corporate ventures contribute 20%, indicating growing strategic investment from established firms. Foreign investment accounts for the remaining 10%, highlighting a relatively modest role of international capital in the venture ecosystem. The right pie chart, titled "Allocation of Venture Funds by Sector," displays how VC funding is distributed across different industries. The largest share, 35%, is allocated to information technology, emphasizing its continued dominance in innovation investment. Biotechnology receives 25%, reflecting high investor interest in life sciences and health-related innovation. Both clean energy and advanced manufacturing receive 15% each, signaling emerging strategic priorities. The remaining 10% is allocated to other sectors, representing a diversified portfolio approach by venture capitalists. Together, the charts provide a comprehensive view of the structure and direction of venture capital deployment, highlighting the significant influence of private and public capital and a clear prioritization of high-tech and biotech sectors. (Figure 1. Sources and Sectoral Allocation of Venture Capital Funds)



**Figure 1.** Sources and Sectoral Allocation of Venture Capital Funds.

Venture capital (VC) plays a crucial role in fostering innovation and economic growth in emerging economies, but faces unique challenges in these contexts. Weak institutional frameworks and underdeveloped financial systems necessitate adaptive approaches [9]. Networks and informal institutions often supplement or replace formal structures in early stages of VC development [9],[10]. Stable regulatory environments, clear exit strategies, and effective governance are essential for attracting foreign VC investment [11]. However, over-reliance on government assistance can be counterproductive [12]. Collaboration among stakeholders is crucial for creating an investor-friendly climate [12]. Further research is needed to understand the nuanced interactions between institutional factors and VC investments across diverse emerging market settings [13].

This table presents a comparative analysis of venture capital fund models in four countries United States, Germany, Israel, and South Korea each recognized for its effective integration of innovation financing into national economic strategies. The table highlights key components such as the level of government involvement, the presence of public-private partnerships, the main sectoral focus of venture funding, and the flagship programs that characterize each country's approach.

- a. The United States demonstrates a moderate level of government involvement, relying largely on private investors with public support structures such as the Small Business Investment Company (SBIC) program. The focus is predominantly on technology and health sectors.
- b. Germany shows a high degree of government participation, particularly through funding and policy support. Its venture initiatives prioritize green energy and

technology, with the High-Tech Gründerfonds serving as a central funding instrument.

- c. Israel is known for its high government involvement, especially through co-investment models that catalyze private sector interest. The flagship Yozma program is internationally acclaimed for accelerating startup activity in technology sectors.
- d. South Korea also maintains a high level of public support, directing investments toward manufacturing and technology through initiatives like the Growth Ladder Fund, which strategically targets innovative small and medium enterprises.

This comparative overview provides a foundation for understanding how structural, financial, and institutional dynamics influence the success of venture capital models globally, offering insights for policymakers and researchers seeking to replicate or adapt such frameworks.

Table 1 provides a comparative overview of how selected countries structure their government involvement, establish public-private partnerships (PPPs), and define sectoral priorities within their national venture capital (VC) ecosystems. Additionally, it highlights each country's flagship program designed to stimulate innovation-led economic growth.

- a. In the United States, government involvement is described as moderate, yet robust PPP mechanisms such as the Small Business Investment Company (SBIC) program play a vital role in mobilizing private capital for technology and health-related startups.
- b. Germany demonstrates a high level of governmental engagement, with strategic support for green energy and technology sectors. The High-Tech Gründerfonds serves as the primary instrument for seed-stage investment, reflecting strong state-industry collaboration.
- c. Israel also features high government involvement, particularly focused on tech startups. Its landmark Yozma program is widely recognized as a model for state-led venture capital initiatives that successfully transitioned to private management.
- d. South Korea mirrors this approach with high state participation and a strategic emphasis on manufacturing and technology innovation. The Growth Ladder Fund acts as a catalytic platform to scale startups while fostering private-sector co-investment.

Overall, the table illustrates that while all four countries rely on PPP frameworks, the level of government intervention and sectoral focus vary, reflecting national innovation strategies and economic policy goals. (Table 1: Comparative Overview of Venture Fund Models)

**Table 1.** Comparative Overview of Venture Fund Models.

Country	Gov. Involvement	Public-Private Partnership	Main Focus	Flagship Program
USA	Moderate	Yes	Technology, Health	SBIC
Germany	High	Yes	Green Energy, Tech	High-Tech Gründerfonds
Israel	High	Yes	Tech Startups	Yozma
South Korea	High	Yes	Manufacturing, Tech	Growth Ladder Fund

For future academic inquiry, in-depth longitudinal studies and mixed-method research combining qualitative insights with quantitative impact evaluations are recommended. Recent bibliometric analyses have highlighted the growing body of venture capital (VC) research, revealing key themes such as adoption processes, financing, governance, and syndication [14]. To advance the field, scholars recommend employing mixed methods approaches, combining quantitative and qualitative data to provide deeper insights into VC dynamics [15]. These studies should examine how venture fund

performance evolves over time and how such mechanisms contribute to broader developmental goals such as employment, technological diffusion, and social inclusion. By bridging theoretical models with practical outcomes, future research can offer comprehensive guidance for designing resilient, innovation-oriented venture capital ecosystems tailored to diverse national contexts.

#### 4. Conclusion

In conclusion, this study highlights that the successful formation and transformation of venture funds in countries such as the United States, Germany, Israel, and South Korea are underpinned by a strategic alignment of public policy, institutional support, and dynamic collaboration between government and private sectors. The findings underscore the critical role of flexible policy frameworks, adaptive funding mechanisms, and targeted sectoral investments in fostering sustainable innovation ecosystems. These insights carry significant implications for emerging economies aiming to stimulate innovation-led growth, suggesting the need for context-specific models that consider institutional capacity, market maturity, and socio-economic priorities. Despite the documented successes, the study reveals a notable gap in understanding how such models can be effectively adapted to environments with weaker financial infrastructure or policy enforcement. Therefore, further research is warranted to explore the longitudinal impact of venture fund interventions, the interaction of cultural and regulatory factors in diverse contexts, and the role of informal innovation networks. Expanding both theoretical and empirical knowledge in these areas will contribute to the development of more inclusive and resilient innovation financing systems globally.

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