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Exploring the Investment Effectiveness of Patient Capital in Entrepreneurial Enterprises: A Case Study of the Changping Technology Industry Fund-of-Funds Cluster

BREAKOUT SESSION 1 – ROLE OF INNOVATION SPACES IN THE DEVELOPMENT OF TECHNOLOGY, INDUSTRY, AND FINANCE

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EXECUTIVE SUMMARY

Focusing on the Changping Technology Industry Fund-of-Funds Cluster, this article examines the investment effectiveness of patient capital in supporting entrepreneurial enterprises. By analyzing the cluster's background, development strategies, challenges, and investment outcomes, the study reveals that Science and Technology Parks play an essential role as patient capital, driving forward technological innovation and industrial upgrading. Using the Changping Technology Industry Fund-of-Funds Cluster as a case, the paper discusses the contributions of Science and Technology Parks to technological, industrial, and financial development, providing valuable insights and references for other regions.

In recent years, with the continuous adjustment and optimization of China's economic structure, the importance of entrepreneurial enterprises within the national economy has become increasingly pronounced. However, during their development, these companies often face difficulties in accessing affordable financing, which significantly hinder their innovation capability and market competitiveness. As the most ideal form of government-guided funds, fund-of-funds (FoF) has emerged as a crucial bridge connecting technological achievements, small and medium-sized enterprises, industry leaders, and financial institutions. It also serves as a key measure of governments to guide, support, and empower industrial development. To invigorate the Sci-tech innovation finance, Changping District currently focuses on sci-tech finance, expediting the establishment of a multi-tier capital market and a Changping Technology Industry Fund-of-Funds Cluster. Meanwhile, it helps develop a matrix of fund products across the entire investment life-cycle, thereby attracting diverse financial resources and social capital to contribute to regional development.

1 BACKGROUND AND SIGNIFICANCE OF THE CHANGPING TECHNOLOGY INDUSTRY FUND-OF-FUNDS CLUSTER

To implement China's innovation-driven development strategy, accelerate industrial restructuring, refine investment and financing systems, and play a demonstrative role as a base for the entrepreneurship and innovation of small and micro-sized enterprises (SMEs), Changping District has, since 2016, encouraged district-level state-owned enterprises to invest in government-guided funds by increasing the capital of Beijing Changping Technology Innodevelop Group (CTID). This approach has fostered a sustainable capital-raising mechanism predominantly funded by governments.

2 DEVELOPMENT STRATEGIES AND KEY MEASURES OF THE CHANGPING TECHNOLOGY INDUSTRY FUND-OF-FUNDS CLUSTER

Based upon Changping District's planning and deployment of high-tech industries and investment funds, a full-cycle product matrix has been established that accommodates to the distinct stages, strategies, functions, and funding sources of various funds. This matrix is continuously attracting diverse financial resources and social capital to participate in regional development.

At present, Changping District has established three early- to mid-stage FoFs: the SME Growth Fund, the SME Entrepreneurship and Innovation Fund, and the Industry-Innovation Integration Fund, alongside one industrial guidance fund, namely the Industrial Development Fund, and one mid- to late-stage FoF, the Medical and Health Fund. As of the end of the third quarter of 2024, these five FoFs had a combined committed capital of 9.087 billion RMB, of which approximately 4.676 billion RMB has been paid in. The FOF cluster has cumulatively invested in 50[1] sub-funds and 25 direct investment projects have been financed, with external committed capital amounting to 4.576 billion RMB and paid-in capital to 4.364 billion RMB.

Overall, the Changping Technology Industry Fund-of-Funds Cluster has a total scale exceeding 42 billion RMB. Through both direct and indirect channels, it has invested in 141[2] projects located in Changping, involving a total investment of 3.818 billion RMB.

3 CHALLENGES AND SOLUTIONS FOR THE CHANGPING TECHNOLOGY INDUSTRY FUND-OF-FUNDS CLUSTER

3.1 Intensified Competition for Investments Among Local Governments

With government-guided funds for investment attraction becoming a standard tool for regions to attract large and strong enterprises, competition in industrial investment attraction has intensified. When it comes to high-quality projects and enterprises, the fund investment attraction approach that merely provides capital may not necessarily stand out. In developed areas, the core competitiveness of industrial fund investment attraction and capital investment attraction lies in implementing a platform strategy that uses funds as a bond to integrate resources from all sides and forms a comprehensive service platform and factor supply platform for enterprises.

In response, Changping has established a Key Project Guidance Fund and has taken the initiative to conduct direct and precise investments to promote the attraction of major projects. It has also provided high-quality industrial space, professional industrial services, and exemplary application scenarios. Focusing on the core elements of enterprise development, it offers customized and one-stop service solutions for enterprises. Through this combination of measures, it aims to retain and stabilize enterprises.

3.2 Hampered Investment due to Incomplete Risk-Tolerance Mechanisms

Government-guided funds have become the primary source of capital in the venture capital market. However, in practice, many state-owned venture capital institutions, constrained by traditional performance assessment systems, lack the patience required to stay invested in high-quality enterprises with long development cycles, resulting in insufficient investment vitality.

In response, the Changping District is exploring the establishment of a risk-tolerance mechanism that aligns with the operational logic of fund investments and permits normal investment risks. Meanwhile, standards of performance evaluation are optimized and the liability exemption mechanism is centered on due diligence and compliance. Such measures address common concerns of government-guided fund managers, namely hesitance to invest, reluctance to exit, and fear of accountability.

4 INVESTMENT OUTCOMES AND KEY LESSONS FROM THE CHANGPING TECHNOLOGY INDUSTRY FUND-OF-FUNDS CLUSTER

4.1 Guiding Social Capital to Become Patient Capital via Early-Stage, Small-Scale Investments

The Changping Technology Industry Fund-of-Funds Cluster has played a guiding role in leveraging social capital for greater impact.

First, as of the end of the third quarter of 2024, the paid-in scale of market-oriented sub-funds (RMB 29.36 billion) in which the government-guided FoF has a stake is 12.42 times the actual paid-in investment by the government-guided FoF (RMB 2.364 billion[3]).

Second, through the "fund-of-funds + direct investment" model, a total of 1,031 sci-tech innovation enterprises have received direct or indirect investments, with combined investments reaching RMB 24.585 billion. Among these are 141 enterprises located in the Changping District, including over 40 companies newly relocated to there; the district-based investments amounted to around RMB 3.818 billion—2.3 times the District's fiscal capital allocation of RMB 1.667 billion.

Third, the cluster remains committed to early and small-scale investments: out of the 1,031 sci-tech innovation enterprises directly and indirectly funded, 934 are angel, startup, or early- to mid-stage projects, accounting for over 90% of the total. Of the RMB 24.585 billion invested, RMB 18.373 billion flowed to angel, startup, or early- to mid-stage ventures, constituting about 75% of the total investment.

Fourth, the cluster has attracted and nurtured four listed companies (e.g.,NIU, BeiGene, and Eyebright), four unicorns (including Careverse), five national or municipal "Little Giant" companies (e.g.,PINS), and over ten Changping companies recognized as specialized SMEs. Over 20 high-level tech enterprises (including BriSTAR Immunotech) and high-caliber talented individuals have been acknowledged through the "Changju Program (an initiative of attracting elite talents)," 13 companies (e.g., Leto) have been identified as "Gazelle Enterprises," nearly 50 have been recognized as "National High-Tech Enterprises," and close to 20 have been included in the "Golden Seed" program.

TowardPi, which focuses on the R&D, production, and sales of ophthalmic OCT products, provides reliable diagnostic equipment for glaucoma and other fundus diseases, filling the domestic gap in equipment. Since 2020, CTID has invested in TowardPi's pre-A round through the Zhiheng No. 1 Direct Investment Fund and has continued to support the company's scaling by offering policy guidance, talent recruitment, and other services. In 2021, CTID made a follow-on investment in TowardPi and the company's most recent valuation is approximately 19 times higher than at the time of CTID's initial investment.

4.2 Facilitating Technology Commercialization and Strengthening Innovation-Driven Development

The Changping Technology Industry Fund-of-Funds cluster places a strong emphasis on original innovation. By the end of the third quarter of 2024, it had directly or indirectly supported 33 Changping's enterprises in academia-research-industry collaboration and their rapid development, with a combined investment of approximately RMB 1.422 billion. These companies include Menlo, Huahui Health, and Edigene, whose key technologies originate from Tsinghua University, Peking University, and Stanford University. Furthermore, the government-guided fund-of-funds underscores the importance of high-caliber talents, directly or indirectly investing over RMB 1.3 billion in 17 enterprises established in Changping by eminent academic figures, including recipients of the "Thousand Talents Plan," the National Science Fund for Distinguished Young Scholars, the "Beijing Municipal Hundred, Thousand, and Ten Thousand Talents Program," the "Beijing Overseas Talent Aggregation Project (BOTAP)" and the "Changju Program."

Founded in 2020 by Shao Feng, Member of the Chinese Academy of Sciences (CAS) and Deputy Director of National Institute of Biological Sciences, Beijing (NIBS), and Deng Tianjing, President of BioDuro, Pyrotech centers on the novel immunomodulatory target Gasdermin, developing disruptive small-molecule drugs to treat inflammatory diseases, tumors, and other conditions. In 2021, CTID participated in Pyrotech's angel round of financing through its Zhiheng No. 1 Direct Investment Fund, following up with an additional investment in 2023. Besides, CTID has consistently assisted Pyrotech with obtaining key qualifications and applying for supportive policies, including its recognition as "Innovative SME" and "Yuxin (High-tech Incubation) Enterprise."

Shuimu Ventures is a collaborative fund established with Beijing Tsinghua Industrial R&D Institute. It focuses primarily on technology commercialization projects in frontier innovation and "bottleneck" fields, especially synthetic biology, high-barrier medical devices, and life science tools, while also covering biotechnology and consumer healthcare. In 2024, CTID invested in the Shuimu Ventures through its FoF, aiming to foster a virtuous cycle linking "technology, capital, and industry."

4.3 Focusing on Key Regional Industries and Developing a Blueprint of Emerging Industries

The Changping Technology Industry Fund-of-Funds cluster supports the development of key industries in Changping, leveraging the district's existing industrial strengths to cultivate several emerging subsectors. Guided by an industrial roadmap, the fund cluster has supported the growth of medical and health enterprises in Changping. Examples include Grandomics, a leader in precision medicine; Careverse, a frontrunner in medical AI; Edigene and BriSTAR Immunotech, both excelling in cell and gene therapies; InnoCare, Huahui Health, and Singlomics, key enterprises in innovative drug research and development; and Eyebright and PINS, two premium companies in high-end medical devices.

Following the same industrial roadmap, the cluster also supports the development of advanced energy and advanced manufacturing enterprises in Changping. Ventures in advanced energy include Tsingtech, while sub-fields in advanced manufacturing feature high-end equipment (e.g., DigiBird, Beijing Dacheng Measurement Technology, and Coolhigh), integrated circuits (e.g., Wanlong Lean), and robotics (e.g., Megarobo and NIU). In information technology, notable enterprises include Gozoral, Cool College, and Hammerhead Shark Technology, with Senses standing out in fintech.

4.4 Supporting Enterprises' Development with Synergy of "Fund + Base + Platform + Service"

As a wholly state-owned industrial investment and operations platform under the Beijing Changping District Government, CTID has innovated a new model of comprehensive services by integrating "Fund + Base + Platform + Service," empowering the region's industrial transformation and upgrading. Collaborating with CBC Capital, CTID established the International Precision Medicine Industrial Park,

creating a high land for smart CGT industry. In partnership with Marathon Venture Partners, it founded the Changping Life Valley Marathon Digital Healthcare Incubator to accelerate next-generation innovations in digital healthcare through academia-research-industry collaboration.

Focusing on the entire industrial chain of life and health, CTID has built a range of specialized service platforms, including an International Precision Medicine Innovation Center and Accelerator, a Medical Device CMO Platform, a shared instrument and testing service platform, and the M^+ Medical & Cosmetic Innovation Center. For intelligent manufacturing, it has assembled an integrated circuit flexible manufacturing platform, among others, to incubate and commercialize original innovations from leading universities research institutions such as NIBS and Tsinghua University. A resource-rich ecosystem for enterprise innovation and entrepreneurship has been created to attract investment institutions to undertake equity investments in Changping.

4.5 Refining Policies on State-Owned Capital Contributions, Evaluations, Risk-Tolerance, and Exit

First, the Changping Technology Industry Fund-of-Funds cluster has clarified the direction and priority areas for each type of fund's capital contributions. Policy guidance ensures that state-owned capital is channeled precisely to support key sectors and weaker links in technological innovation and industrial upgrading.

Second, Changping District has established a comprehensive regulatory framework—Provisional Measures for Managing Government Investment Funds of Changping District, and Provisional Measures for Assessing Government Investment Funds of Changping District—to evaluate and assess regularly government investment funds, ensuring both compliance and effectiveness in the use of funds.

Third, risk-tolerance mechanism has been established to encourage exploration and innovation in technological advancements and industrial upgrading. The implementation of this mechanism has mitigated risks and uncertainties associated with state-owned capital in the innovation process, boosting the willingness of state-owned entities to invest. As a result, management teams of government-guided funds can act decisively and pursue investment opportunities with confidence.

Fourth, the District provides multiple exit channels by actively engaging with market-oriented fund institutions such as NRL Capital and HUAXIA Wealth Management. It explores S-fund transfers, buyback arrangements by fund managers, and other avenues for disinvestment, achieving efficient capital circulation.

5 CONCLUSION

As a patient capital, the Changping Technology Industry Fund-of-Funds cluster has promoted the rapid growth of entrepreneurial businesses, driving technological innovation and industrial upgrading. By guiding social capital to become patient capital, facilitating the commercialization of scientific and technological achievements, developing a roadmap of emerging industries, fostering synergies to support enterprises, and refining related policies, the cluster has bolstered high-quality regional economic development.

Looking ahead, CTID will continue to deepen the supply-side financial structural reform, optimize relevant policy measures, and ensure that state-owned capital becomes a more long-term, stable, and sustainable funding source, thereby providing robust support for high-quality regional development. Concurrently, it aims to position Changping District as a national role model, providing valuable experience and insights for other regions.