# Policy Tasks for the Clarification of the Future Role of Korean Venture Businesses and the Facilitation of the Venture Ecosystem

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## Chapter 2. Background of the Start-up Boom and Stagnation and the Possibility of an Industry Rebound

□ Background of Korea's Start-up Boom in 2000

'The Korean start-up boom of 2000 was an exogenous event and an instance of capital market myopia. It was of an exogenous nature in that Korea rode the wave of the worldwide information technology boom. Given that the development of the IT industry provided the impetus for the start-up boom in Korea, it was a type of market myopia that is often observed in the initial days of a new industry.

In particular, one of the key drivers behind the start-up boom of 2000 was a drastic relaxation of the KOSDAQ registration requirements for start-ups in 1999, which opened the floodgates for domestic and overseas investors. The tech-heavy KOSDAQ with dramatically eased registration requirements attracted massive in-

flows of Korean investment as well as foreign capital, which was completely deregulated at the time. The influx of investments prompted a start-up boom on the KOSDAQ.

□ Factors of Industry Stagnation: Lackluster Returns from Venture Capital Investment

The start-up bubble soon burst, leading to a protracted stagnation that is attributable to disappointing returns on venture capital investments.

Capital investments on venture firms established from 1998 to 2011 yielded an average return of 4.08 percent, falling short of the 5.72 percent yielded by Korean government bonds for the same period.

□ Possibility of an Industry Rebound

The Korean venture capital market has shown signs of recovery since 2009, in light of: 1) a gradual recovery of the KOSDAQ Venture Index; 2) a steady increase in venture capital investments; 3) a continuous increase in certified start-ups; and 4) entrepreneurship promotion policies by major economies in the world.

① A Gradual Recovery of the KOSDAQ Venture Index

The KOSDAQ Venture Index continued its upward path from 701.1 points in late 2009 to 1,267 points as of late 2014. This upward trend is especially noteworthy as the KOSDAQ had failed to

display signs of recovery from a protracted slump since 2001.

② A Steady Increase in Venture Capital Investment

Korea's venture capital investments started to recover in 2009 after hitting an all-time low of KRW 724.7billion in 2008, and reached KRW 1.64 trillion in 2014. This figure is well below the KRW 2.02 trillion seen during the start-up boom of 2000, but it still marks significant growth.

The investor breakdown of venture capital funds shows that the share of public venture capital investment, a form of policy support, increased from approximately 35.8% in 2009 to 43.4% of total committed capital in 2014. In contrast, the share of pure private venture capital investments saw a sharp decline in 2009, deviating from the growth recorded from 2004 to 2008, and has since remained nearly flat.

This suggests that government support played a key role in the steady rise in venture capital investments starting in 2009. Given such, it is reasonable to claim that government support has driven the increases in venture capital investments since 2009, which does not constitute a recovery in private venture capital investments.

③ A steady Increase of Start-ups

The number of certified start-ups steadily increased from 7,702 in 2003 to 30,204 in July 2015 in Korea. In particular, it is important that the number of venture-backed start-ups, which embody the truest sense of the term "venture firm," bottomed out at 555 in 2009

but has continued to rise ever since. That number temporarily fell to 568 in 2011 but recovered to 791 in 2014. Along with growing venture capital investments, the increase in start-ups is a positive sign of the rebound of the business venture industry.

④ Policies to Promote Entrepreneurship in Major Economies

The 2000 tech boom led to a simultaneous rise in related stocks in international markets. Likewise, a rebound of the business venture industry is expected to coincide with a tech-stock boom in global equity markets. A start-up boom and a rebound of the business venture industry are related to the emergence of new technologies and industries, whose impact is not confined to a few countries but far-reaching around the world.

In this context, growing interest in policies enacted by major economies to promote entrepreneurship is beneficial, as it may create a catalyst for a rebound of the global business venture industry.

□ Future Policy Tasks

① Reduction in Government Support for Fund-raising

Korea has a deep pool of venture capital, ranking among the world's top five countries in terms of venture capital relative to GDP. Given this, there is no reason for an increasing amount of public funds to finance venture capital. In particular, excessive government support may risk pushing out private participation, which necessitates a reduction in government contributions to venture

capital. In addition, Korea's venture capital funds have an investment capacity of KRW 2.88 trillion in terms of committed capital and KRW 832 billion in terms of paid-in capital as of late June 2015. This significant investment capacity suggests there is already sufficient fundraising in the venture capital market. The issue at stake is not a shortage of public funding but the lack of attractive investment opportunities.

② Focus on Creating Good Investment Opportunities, Rather than Public Funding

It may be arguable whether the focus of entrepreneurship promotion policies should be on supporting fund raising or on creating good investment opportunities. However, there is little dispute that creating good investment opportunities is more important than raising investment funds in the Korean market. In this regard, there is an urgent need to promote business incubation (BI) to create good investment opportunities. Regardless of the material or target, business incubation can establish the best practices through comprehensive services, professional mentoring, and venture capital investment, all of which can increase the success rate of start-ups.

③ Rebalancing the Venture Investment and Exit Markets

A narrow exit channel is due to excessive venture capital investments. In a normally functioning venture capital market, a balance between investment and exit is naturally achieved to a certain extent, as a lackluster exit market weighs on investment return, which

in return discourages further investment. In this context, before overhauling the investment exit market, it is necessary to check if venture capital investments are excessive relative to the exit market, and evaluate if excessive government investments have fueled overheating in the venture capital investment market.

In sum, it is desirable to reduce the government's role as a fund raiser in the venture capital market. In particular, at a time when the exit channel is narrow, an unreasonable expansion of the investment market is bound to drive down investment yields, which in return crowds out private investments. In addition, it may form an abnormal exit channel that disturbs the natural order of the venture capital market.

④ Extension of the Act on Special Measures for the Promotion of Venture Businesses beyond 2017 and an Overhaul of the Start-up Certification System

Given market circumstances in 2015, it is difficult to have an optimistic outlook for the Korean start-up industry in 2017. The start-up industry has showed signs of recovery since 2009, albeit not to a full extent. In this regard, the rescission of the Act on Special Measures for the Promotion of Venture Businesses in 2017 may risk dampening long-awaited recovery in the venture capital market. It is necessary to consider extending or removing the sunset date of 2017 for the Act on Special Measures for the Promotion of Venture Businesses, which was enacted as a temporary law in 2007. However, discussion regarding the removal or delay of the sunset date should involve more than a regulatory change and

reflect qualitative changes in entrepreneurial promotion policies. In other words, it is necessary to take into full consideration the shift in public policy toward the establishment of a market-friendly entrepreneurial ecosystem and a virtuous cycle of venture capital. The key issues for such discussions include an extensive reform of the Start-up Certification System and the establishment of a privately driven virtuous cycle in the venture capital market.

⑤ Greater Focus on the Government's Role as Manager and Supervisor

The future task of entrepreneurship policies is to transform the start-up ecosystem, which relies heavily on state policies, into a market-driven ecosystem. The Korean government has already clarified its policy initiative. For this purpose, the government should refrain from providing direct support and instead establish its role as a supervisor.

Concrete tasks that the government should undertake to enhance its role as manager and supervisor in the venture capital market include systemic improvement to ensure greater efficiency in the Start-up Certification System. Also, institutional improvements should be made to reduce the share of public contribution in venture capital funding and increase the share of private participation. The system should be improved in a way that the government does not provide direct contribution to venture capital financing but partly offsets the risk of venture capital investments and increases expected returns on private investments.

## Chapter 3. Profile of the Start-up Industry and Determinants of Start-up Certification

### □ Profile of the Start-up Industry

The Start-up Certification System under the Act on Special Measures for the Promotion of Venture Businesses is responsible for determining which companies qualify as start-ups. The Start-up Certification System and related requirements have evolved according to policy goals. As the legal definition of start-ups diversified beyond venture-capital backed companies to include R&D firms and guarantee and lending firms based on technology credit bureaus (TCBs), the number of start-ups surged from 1,697 in late 1998 to 30,000 by late 2014. Ironically, however, the Start-up Certification System has been the subject of constant debate, as the market-friendly reform broadened the start-up categories to include "TCB-based guarantee and lending firms" in 2006, leading to a sharp increase in the official number of start-ups.

In the early days of the market's Start-up Certification System, it recognized various forms of businesses as start-ups based on loose requirements in order to drive quantitative growth in the business ventures industry. However, the requirements were tightened and the categories of start-ups were reduced in 2002, part of an effort to enhance the soundness and quality of start-ups. Meanwhile, TCB-based guarantee and lending firms were included as a new category of start-ups in 2006 as part of market-friendly reforms in the Start-up Certification System. The number of TCB start-ups has steadily been increasing, accounting for a large share of the current

industry. As such, changes in entrepreneurship policy have been accompanied by an overhaul of the certification system, especially in regards to certification requirements and the types of start-ups. Given such, start-up categories and the characteristics of companies defined as start-ups have changed over time, changes that are likely to directly impact start-ups' performance.

□ Analysis of Determinants for Certification

Taking note of limitations in current research, this chapter analyzed the determinants of start-up categories by applying a multinomial logit model to start-ups certified from 2008 to 2014, using data provided by the Small and Medium Business Administration and the Korea Credit Guarantee Fund. In short, the analysis revealed the characteristics of a company, observable at the time of certification, that are most relevant for each category. The analysis also examined the differences between venture-backed companies, which are perceived as closer to true business ventures, and TCB-based guarantee companies, which account for the majority of start-ups launched after 2006 and rely on financial institutions for funding, with credit guarantees from the Korea Credit Guarantee Fund.

According to the multinomial logit analysis (See Table 1), when comparing two companies with all variables being equal at the mean level, the company that is more likely to be certified as a start-up under the category of TCB-based guarantee companies has a smaller shareholders' equity, a larger number of employees, a bigger sales revenue, a higher number of re-certifications and a

CEO with a background in SME, not in universities, research institutes or large corporations.

However, venture-backed companies, which are closest to the original definition of business venture, were almost the opposite of TCB-based guarantee companies.

Table 1. Multinomial Logit Analysis of Determinants for Start-up Certification: Marginal Effect

| Type of companies | TCB-based guarantee companies | TCB-based lending companies | Venture-backed companies | R&D firms |
|---|---|---|---|---|
| In (Shareholders' equity) | -0.0668<br>(0.0059) | 0.0122<br>(0.0047) | 0.0186<br>(0.0015) | 0.0361<br>(0.0034) |
| In (Number of employees) | 0.0257<br>(0.0006) | -0.0127<br>(0.0004) | -0.0048<br>(0.0002) | -0.0082<br>(0.0005) |
| In (Sales revenue) | 0.0006<br>(0.0001) | -0.0003<br>(0.0001) | -0.0002<br>0.0000 | -0.0001<br>(0.0001) |
| Number of re-certification | 0.0024<br>(0.0013) | -0.0048<br>(0.0010) | 0.0052<br>(0.0005) | -0.0029<br>(0.0006) |
| Years in business | -0.0002<br>(0.0002) | 0.0002<br>(0.0001) | -0.0003<br>(0.0001) | 0.0002<br>(0.0002) |
| CEO background (I): Professor/researcher | -0.0200<br>(0.0027) | -0.0106<br>(0.0016) | 0.0051<br>(0.0008) | 0.0254<br>(0.0018) |
| CEO background (II): Large corporation | -0.0214<br>(0.0020) | 0.0013<br>(0.0010) | 0.0068<br>(0.0007) | 0.0132<br>(0.0015) |
| CEO background (III): others | 0.0013<br>(0.0021) | -0.0012<br>(0.0009) | 0.0044<br>(0.0007) | -0.0044<br>(0.0018) |
| Pseudo R2 value<br>Total number of observations | 0.2615<br>101,387 | | | |

Source : List of Certified Start-ups (2008-2014).

Note : ( ) means robust standard errors. Standard errors are clustered for the same business. This study also controlled other dummy variables such as the type of industry, region, latest year of certification and the initial year of certification.

That is, if comparing two companies with all variables being equal at the mean level, the company that is more likely to be certified as a venture-backed start-up has a greater shareholders' equity, a fewer number of employees, lower sales revenue, a higher number of re-certifications, a shorter history of business or a CEO with a background in universities, research institutes or large corporations, as opposed to than SMEs.

□ Policy Implications

Venture–backed start-ups accounted for only 2.7 percent of the industry in late 2014, which reflects a dearth of companies, which could attract venture capital investments. As a result, most of the companies that were not designated as venture-backed start-ups were instead certified as TCB-based guarantee companies. Accordingly, a number of start-ups that did not originally fit the objective of the government's entrepreneurship policy also received certification.

In addition, regardless of the type of start-ups, certification institutions consider a company's size (sales revenue, number of employees) or shareholders' equity as a decisive factor in their screening process, a procedure to ensure safety in their investment, loan or guarantee. Although the number of companies certified as start-ups reaches 30,000, there are only a few businesses that have a high-risk, high-return profile, which is the intrinsic nature of a business venture. This also raises the concern that the screening process by venture certification institutions may eventually discourage the formation of firms that are more adventurous.

Accordingly, in order to mitigate or remove problems inherent in the current certification system, it is imperative to overhaul the Start-up Certification System, which is skewed toward policy-funded companies, so that the system makes more active use of market mechanisms by restoring the workings of the start-up ecosystem, including the venture capital investment and exit markets.

In addition, the focus of policy measures should shift from a quantitative parameter – an increase in the number of start-ups – to a qualitative one, which would focus on upgrading the quality of companies certified as start-ups. To do so, there is an urgent need to review the process of evaluating technology and business viability for TCB-based guarantee companies, which have been the largest contributor to the quantitative expansion of the start-up industry. In short, now is the time to establish a process to select companies with technological potential and innovation – the fundamental object of the government's entrepreneurship policy.

## Chapter 4. Diagnosis of the Venture Capital Market and Policy Tasks

□ Venture Capital Financing and Investment

This chapter looked into the Korean venture capital market in terms of funding value and investment. After the burst of the venture bubble in late 2000, the Korean venture capital market underwent a slump that lasted until the mid-2000s, and started to recover after the launch of the Korea Fund of Funds in 2005 and government policies to stimulate the venture capital market. The

aggregated capital raised by new venture capital funds surged to KRW 1.42 trillion in 2009, underwent temporary decline in 2012, and recovered to a record high in 2014. Meanwhile, the aggregate capital raised by existing venture capital funds has been growing as well. As of late 2014, there are a total of 481 funds in operation with an aggregate capital of KRW 12.19 trillion.

The outstanding venture capital investment dwindled from KRW 2.88 trillion in late 2000 to KRW 2.19 trillion in late 2006 due to the burst of the start-up bubble. However, thanks to the launch of the Korea Fund of Funds and policy measures to stimulate the venture capital market, outstanding venture capital investments have steadily increased since 2006. In late 2014, Korea's outstanding venture capital investments stood at KRW 5.01 trillion.

□ Current Status of the Exit Market

The venture capital exit market has been contracting or stagnating for an extended period after reaching a record high of KRW 673.5 billion in 2005. However, the aggregate value of the exit market stood at KRW 782.1 billion in 2014, surpassing figures recorded in 2005. When categorized according to exit type, the ratio of M&A to IPO stood at 1:9, which reflects a heavy reliance on IPOs as a market exit channel.

□ Government-driven Supply Market

First, the Korean venture capital market depends heavily on the public sector to raise venture capital. Against this backdrop, it

is fair to conclude that the public sector alone serves as a stable source of funds to the Korean venture capital market. However, the prevailing view is that an excessive inflow of public funds to a market with limited investment opportunities may discourage private investors from participating, and therefore undermine the development of a self-sustaining, privately led venture investment market.

□ Lack of Investment in Early-stage Start-ups

Second, Korea's venture capital investments are concentrated on start-ups at the exit stage, not at the early-stage. Accordingly, the conservative nature of capital investments continues to fuel debate. Of course, recent statistics reveal that companies less than three years old account for an increasing share of new venture capital investments, and the number of venture capital funds has risen. Such developments may contradict the shift of venture capital investment toward a more conservative stance. However, given the significant contribution of public funds in venture capital funding, it is still open to discussion whether the government's intervention in the venture capital market has helped early-stage start-ups or whether it has merely facilitated market failure.

□ A Lackluster Exit Market

Third, the lack of diversity in the exit channels is cited as one of the largest obstacles in the Korean venture capital market. Contrary to the United States, which has a large M&A market, the Korean venture capital market heavily relies on IPOs as an exit channel.

Given that it usually takes 10 years or more for Korean start-ups to go public on the KOSDAQ, this underdeveloped exit market makes it difficult for venture capitalists to recoup their investments. Meanwhile, the value of new venture capital funds has continued to increase, driven by government policy support such as Korea Fund of Funds, but the exit market remains stagnant, which suggests an oversupply of venture capital in the market.

□ Need to Overhaul Venture Capital Regulations

Venture investment firms and technology financing companies are classified differently in terms of legal grounds and supervising authorities. However, given that both types of firms are primarily funded by venture capital, there is no substantial difference between them. Accordingly, there are risks of unfair distribution of government support in the venture capital market due to opportunities in regulatory arbitrage among venture investment firms and technology financing companies. Thus, it is necessary for the government to adjust laws and regulations related to venture capital investment in order to achieve its policy goals and prevent arbitrage opportunities that may arise among different venture capital regulations. In addition, the discussion of the restructuring regulations should help clearly define the scope of candidates eligible for policy support.

□ Need to Establish a Foundation for Fair M&A Transaction

The government has improved institutional frameworks and

sought to stimulate demand for M&As in the venture capital market. However, a greater focus should be placed on the following areas. Considering the need to expand M&A demand for start-ups among large corporations in order to stimulate the Korean M&A market, regulatory measures should be established to ensure fair transactions. In this regard, the government has set notable policy directions by announcing "Investment Promotion Measures," which includes regulatory oversight and restrictions to prevent large corporations from wrongly appropriating technologies and siphoning key personnel from start-ups. The discussion of major problems such as the misappropriation of technologies and the siphoning of talent is not just a way to promote the M&A market but also provides an avenue to help prevent abuse by large corporations and promote fair contracting practices between large corporations and SMEs. In short, it is desirable to promote the M&A market in a way that prevents large companies from abusing their economic influence, so that the base of start-ups expands and creates a fertile ground for promising self-sustainable start-ups to flourish.

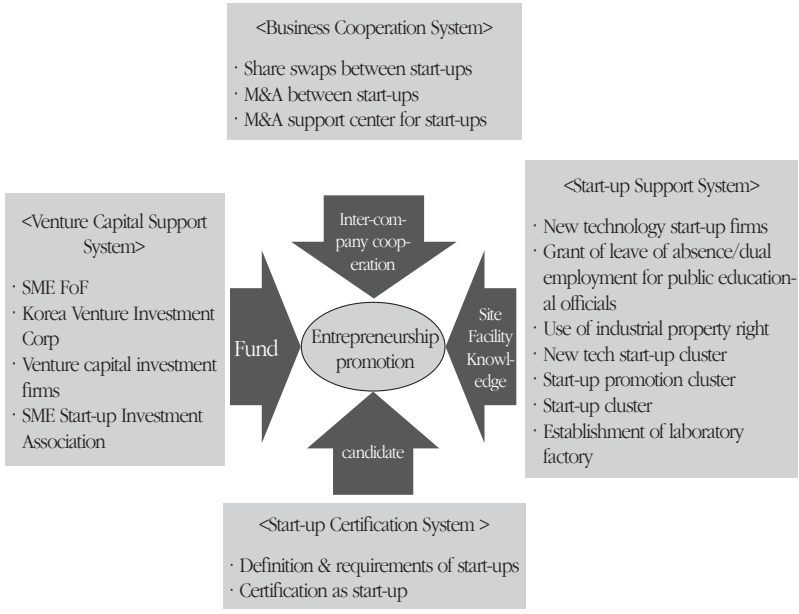
## Chapter 5. Evolution of the Entrepreneurship Support System and Policy Tasks

### □ Changes in the Act on Special Measures for the Promotion of Venture Businesses and the Entrepreneurship Support Systems

Figure 1 shows how entrepreneurship support systems have evolved over the years. The Start-up Support System has been improving since the 2000s, primarily in the areas such as tech start-

ups, youth entrepreneurship, and the provision of business sites. In response to the growing need to promote start-ups driven by creative ideas, technology and special skills, the Start-up Support System has placed greater focus on tech start-ups and one-person start-ups. So far, support for tech start-ups has been coordinated with policies for one-person start-ups. As such, policy support for tech start-ups has been concentrated on eco-friendly, knowledge-based and IT application businesses, which can be established as a one-person start-up. Recently, one-person start-ups are appearing in various areas such as S/W, ICT, consulting, content and design.

Figure 1. Entrepreneurship Support System under the Act on Special Measures for the Promotion of Venture Businesses



Institutional frameworks were improved in 2013 to encourage the formation of start-ups and attract talent, which should contribute to solidifying the foundation for creativity- and idea-based start-ups. Promoting entrepreneurship is also related to the creation of an entrepreneurial environment, which gives start-ups a second chance. As such, the related system was overhauled to provide support throughout the lifecycle of start-ups. Discussions on global start-ups began to take place around 2011-2012 in the context of the start-up support system, which recently led to the establishment of a new support system, apart from the existing globalization support system.

The Venture Capital Support System faces key issues such as support for technology venture capital, promotion of angel investment and financing support for youth entrepreneurship. In the case of technology venture capital, tech start-ups and creativity-based start-ups have enjoyed better financing support and institutional improvements by way of special guarantees, the establishment of an R&D fund dedicated to tech start-ups, the approval of venture capital investment by private university reserve funds, the removal of caps on equity investment in venture funds for banks and insurers, and the creation of mentoring funds by the Korea Fund of Funds.

The Start-up Certification System has undergone several rounds of systemic overhauls since its introduction in 1998 to address problems identified during its implementation. In particular, to tackle unwanted side effects of government certification, improvements such as stricter criteria for innovative capability were introduced in 2012, and the evaluation criteria were adjusted in 2014. Start-up

certifications by angel investors were also introduced, and global market potential is now a factor under consideration. Despite several improvements in the past years, the Start-up Certification System has been subject to persistent debates over its effectiveness.

The Business Cooperation Support System primarily works to attract external resources to enhance the vitality of start-ups. The Business Cooperation Support System has sought to improve the institutional framework by facilitating industry-academy partnerships between start-ups and new tech venture investment firms established by universities or research institutions. This eases the criteria for mandatory equity ownership in new technology venture capital firms to promote strategic partnerships between start-ups and foreign entities. It also introduces special regulations on foreign equity ownership in start-ups. However, the Business Cooperation Support System lags behind other support systems in terms of institutional improvements.

□ Policy Tasks

First, it is imperative to completely overhaul the Start-up Certification System to restore the credibility of venture branding. Despite several rounds of institutional improvement, the Start-up Certification System has been the subject of debate over its validity. The certification system should exist to address market failures caused by informational asymmetry, an inevitable hurdle for start-ups. However, it is necessary to reform the system to minimize market disruptions. The system should be adjusted to restore its credibility, allow private institutions to play a central role, and provide a

certification system that takes into account the difficulties many start-ups experience in securing long-term profits.

Second, it is essential to enhance the infrastructure for business ventures to grow. Despite improvements in the Start-up Support System, it is difficult to expect new start-ups to display growth without the expansion of the Business Cooperation Support System. In particular, recent growth of ICT start-ups is closely related to penetration into the global market, which calls for greater efforts to enhance infrastructure and coordinate global cooperation led by Korean start-ups.

Third, a comprehensive start-up support system should be established. With the rise of the creative economy, a successful start-up requires a convergence of resources from various government organizations at different levels. However, an appropriate support system has yet to be established. Advanced economies have systems to implement necessary policies that help to bring together innovative start-up ideas with R&D programs. Due to the growing importance of innovative tech start-ups, business formation in connection with R&D programs has emerged as a policy agenda in Korea as well. Accordingly, the government should build a policy implementation system that can effectively link innovative start-ups and R&D institutes to create a comprehensive entrepreneurial support network.

Fourth, it is necessary to consider extending or removing the sunset date of the Act on Special Measures for the Promotion of Venture Businesses. The Act on Special Measures for the Promotion of Venture Businesses should not just serve as a support system for start-ups but also as the foundation to bolster the start-up

industry. The Act on Special Measures for Supporting the Structural Improvement and Managerial Stabilization of Small and Medium Enterprises alone is not enough to provide support throughout the entire lifecycle of start-ups, from establishment and throughout several growth phases. Accordingly, the Act on Special Measures for the Promotion of Venture Businesses should remove the sunset clause and secure a stable legal status to aid the start-up industry support system. However, it is important to enhance market-friendly support to mitigate the unwanted side-effects of policy intervention, which may arise during the implementation of the Act on Special Measures for the Promotion of Venture Businesses.

Fifth, the support system should be augmented and applied throughout the lifecycles of startups, encompassing business formation and growth in the global market in order to ensure that the entrepreneurship support system effectively contributes to incubating and sustaining start-ups. In terms of the lifecycle of startups, there needs to be solutions for growth lags in the global market combined with support for tech start-up creation and funding. Accordingly, the entrepreneurship support system prescribed under the Act on Special Measures for the Promotion of Venture Businesses should provide greater systemic assistance for tech start-ups with global potential to sharpen their competitive edge.