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2012 Modularization of Korea's Development Experience:

Korean Support System for Venture Business Creation

2013

SMBA Small & Medium Business Administration

HANNAM Hannam University

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Korean Support System for Venture Business Creation

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Preface

The study of Korea's economic and social transformation offers a unique opportunity to better understand the factors that drive development. Within one generation, Korea has transformed itself from a poor agrarian society to a modern industrial nation, a feat never seen before. What makes Korea's experience so unique is that its rapid economic development was relatively broad-based, meaning that the fruits of Korea's rapid growth were shared by many. The challenge of course is unlocking the secrets behind Korea's rapid and broad-based development, which can offer invaluable insights and lessons and knowledge that can be shared with the rest of the international community.

Recognizing this, the Korean Ministry of Strategy and Finance (MOSF) and the Korea Development Institute (KDI) launched the Knowledge Sharing Program (KSP) in 2004 to share Korea's development experience and to assist its developing country partners. The body of work presented in this volume is part of a greater initiative launched in 2010 to systematically research and document Korea's development experience and to deliver standardized content as case studies. The goal of this undertaking is to offer a deeper and wider understanding of Korea's development experience with the hope that Korea's past can offer lessons for developing countries in search of sustainable and broad-based development. This is a continuation of a multi-year undertaking to study and document Korea's development experience, and it builds on the 40 case studies completed in 2011. Here, we present 41 new studies that explore various development-oriented themes such as industrialization, energy, human resource development, government administration, Information and Communication Technology (ICT), agricultural development, land development, and environment.

In presenting these new studies, I would like to take this opportunity to express my gratitude to all those involved in this great undertaking. It was through their hard work and commitment that made this possible. Foremost, I would like to thank the Ministry of Strategy and Finance for their encouragement and full support of this project. I especially would like to thank the KSP Executive Committee, composed of related ministries/departments, and the various Korean research institutes, for their involvement and the invaluable role they played in bringing this project together. I would also like to thank all the former public officials and senior practitioners for lending their time, keen insights and expertise in preparation of the case studies.

Indeed, the successful completion of the case studies was made possible by the dedication of the researchers from the public sector and academia involved in conducting the studies, which I believe will go a long way in advancing knowledge on not only Korea's own development but also development in general. Lastly, I would like to express my gratitude to Professor Joon-Kyung Kim and Professor Dong-Young Kim for his stewardship of this enterprise, and to the Development Research Team for their hard work and dedication in successfully managing and completing this project.

As always, the views and opinions expressed by the authors in the body of work presented here do not necessary represent those of the KDI School of Public Policy and Management.

May 2013

Joohoon Kim

Acting President

KDI School of Public Policy and Management

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Summary

This report studies the processes and government policies concerning venture business creation and growth in Korea to provide policy experiences and implications to developing countries. Korean venture business policies were mainly introduced at the time of the Korean financial crisis in 1997 to transform Korea's economic framework from a large-business-centered one to an innovative-firm-centered structure. That was because the myth of "too big to fail" was collapsing due to bankruptcy of conglomerates (so-called "Chaebol"), and the vicious circle that started with financial institutions weakened from unsustainable ways of business going bankrupt, and businesses, which could not get loans from these financial institutions, also going bankrupt. Under such a general socio-economic crisis from the rapid increase of the unemployment rate from layoffs and the collapse of the middle class, the downgrade of sovereign ratings and the rapid decrease in foreign exchange reserves, forced Korea to reach out to the IMF for a relief loan to overcome the sovereign default crisis. Therefore, the government tried to focus on small businesses, especially venture businesses, to continue to create jobs and economic development. The legal basis for the new focus was set by "The Act on Special Measures for Promotion of Venture Businesses" in 1997.

The stages of Korean venture business policies can be categorized into 4 stages: ① Beginning Stage (1986~1997), ② Booming Stage (1998~2001), ③ Recessive Stage (2002~2004), and ④ Reformation Stage (2005~). In the beginning stage, the Korean government set some measures for infrastructure for venture business creation, such as enactments of laws for technology startup support and the KOSDAQ market. In the booming stage, there were a lot of measures and policies to boost venture formation and investment. In the recessive stage, the government tried to change venture business policies to be more transparent and effective. Finally, in the resetting stage from 2005, the Korean government focused on nurturing innovative SMEs and creating a healthier venture ecosystem that

could encourage private economic agents to do business for new and growing ventures. In addition, it tried to give second chances to entrepreneurs who experienced "honorable failures" from creations and management of venture businesses.

The main policy direction of the current venture business support system is to create an environment of a virtuous cycle in for ventures starting from "startup → growth → exit → re-startup". Current Korean venture business support system can be categorized into venture creation, finance, M&A, tax and others. Venture creation policies include high-tech startup support, technology transfer program, startup space provision, and tax benefit for startups. Financial supports include startup assistance, public policy loans for startups for facility purchases and R&D, venture investment through "the Fund of funds" and the angel investment matching program. Especially, expansion of venture capital investment from the government's supply of investment ("the Fund of the funds"), tax support for venture startups, and stock options substantially helped venture businesses. In addition, as a route to retrieve investments, the Korean government simplified the process for venture M&As, and tried to set up some channels and marts for M&A transactions to be more active. It also applied a simplified procedure and requirement for venture businesses to list on the stock markets. Furthermore, public corporations give special discounts to venture businesses for their successful startup and growth. This report focuses on the three Korean policies that have been the most important components of venture business policies, and the most effective in nurturing a booming venture business industry in Korea. They are entrepreneurship education programs, business incubating programs, and the public venture fund program.

First of all, the public entrepreneurship education system, led by the central government, has been developed with specific purposes, ranging from the youth BizCool program in 2002, a support program for graduate schools of entrepreneurship in 2004, startup education for college students in 2005, and the Technology Startup Academy. Basically, there are four entrepreneurship education programs for teenagers, college students, and adults, established under the Small and Medium Enterprise Establishment Act. Among others, universities are the most active in providing courses and internship opportunities.

Secondly, the business incubating system in Korea was introduced in December 1990 with 「Business Incubator Establishment and Management Plan」. The central government agency in charge of the business incubating system is the Small and Medium Business Administration (SMBA), with the administrative support of the Korea Institute of Startup Entrepreneurship Development (KISED). The supporting and operating institutions are universities, public institutions, and local governments. There are 280 business incubators as of December 2011, among which 214 are university business incubators (76.4%).

Thirdly, Korea created a public venture fund in 2005 for the purpose of the "Fund of funds" with the investments made by the Small and Medium Business Administration, the Ministry of Culture, and other agencies to encourage private venture capital investments in SMEs, especially venture businesses. Korea Venture Investment Corporation (KVIC), the agency specialized in managing the Fund of Funds under the supervision of the SMBA, invests in start-up investment funds, new technology industry investment funds, and private equity funds. Venture capital funds that want to get investments from the public fund need to have an investment plan and funding sources. As of June 2012, the public fund distributed 1.66 trillion won to 233 drop-down venture funds. The drop-down funds have invested 4.303 trillion won to 3,269 venture businesses.

Due to the active venture business policies, the number of venture businesses has increased by significant percentages. When Korean venture business policies were first created the number of venture businesses, confirmed by government, was 2,042, the number jumped to 26,251 in May, 2012. With the exception of the so-called "venture bubble" period of 2002~2004, the number has steadily increased, and even during the world economic recession in 2007 and 2008, there have been more venture businesses established across varying industries, making economic recovery quicker and exports larger. In 2010, venture businesses employed 670 thousand people, accounting for 5.0% of total employment. Each venture business, on average, employed 27.3 people, which was 7.2 times that of non-venture businesses'. In addition, their sales was 177 trillion won (approximately, 164 billion dollars), which accounted for 15.1% of GDP. Each venture business, on average, sold 7.2 billion won (approximately, 6.7 million dollars), and had 42 million won of operating profit. In 2011, the rate of increase in sales of venture businesses was 13.9%, which was higher than large businesses (13.1%) and non-venture small businesses (10.6%). The long term comparison between employment portions between business types shows the role for job creation by venture businesses. Between 1998and 2006, a venture business, on average, increased its employment by 21.4% annually, while non-venture small businesses by 4.5% and large businesses by – 4.8%, which shows a stronger contribution by venture businesses to the Korean economy.

However, some economists in Korea are criticizing the situation or possibility that the government has been too heavily involved in markets so that private markets have not been able to grow enough, and that there have been many cases of moral hazards and adverse selections in the process of active interventions of the government. Some argue that competition between government agencies for new and more policies for ventures led to the private markets being crowded out, leading to a delay in the exit of some "zombie" enterprises from the markets, and to the "venture bubble", caused by the greediness of some venture business managers.

Regardless of the limitations, the Korean support systems and policies for venture business creation and growth have been effective in creating more startups and more jobs through their growth, even if there are some issues especially related to the possible crowding-out of the role private markets with some moral hazard cases and adverse selections. Venture business have also contributed to boosting the entrepreneurship of Korean people so that a lot of young Koreans now think that they can own and manage their own businesses to be more independent and to make more money. They know universities have startup education programs and that central and local governments provide training and seed money for young starting-up entrepreneurs. So, it can be emphasized that developing countries need to take proactive measures to boost entrepreneurship through education programs with public-private partnership programs, to set up a good infrastructure from which potential entrepreneurs can easily create and manage their own businesses, and make a virtuous circle of venture investments and retrievals so that innovative young entrepreneurs can focus on developing ideas and technologies for their businesses.

2012 Modularization of Korea's Development Experience
Korean Support System for Venture Business Creation

Chapter 1

Background of Venture Policy Creation

1. Background of Policy Creation
2. Policy History to Support Venture Businesses

Background of Venture Policy Creation[1]

1. Background of Policy Creation

1.1. Economic Background

In early 1997, the Korean government decided to create and implement the long-term venture business policies, and enacted a special law regarding venture business policies. The following is the detailed background and the process of the policy creation and implementation.

In January 1997, the myth of "too big to fail" was collapsing in Korea due to the bankruptcy of Hanbo Group, followed by Sammi, Jinro, Daenong, Kia, and Ssangbangwool in March, and the vicious circle started as financial institutions, weakened from unsustainable ways of business, went bankrupt and businesses, which could not loan from these financial institutions, also went bankrupt.

1. The majority of Korean venture support policies is for the creation of venture business, such as education, incubation, funding, and tax incentives for startups. So, we are going to explain the venture business policies in general, and then will focus on the three major policies, which are especially important for venture business creation. In 2012, for example, the Small and Medium Business Administration spent 85% of its venture support program budget (307 billion won) on those three programs.

Table 1-1 | The Situation of Unemployment ('98~'02)

	1997	1998	1999	2000	2001	2002
Unemployment(in ten thousands)	56.8	149	137.4	91.3	89.9	75.2
Unemployment Rate (%)	2.6	7	6.3	4.1	4	3.3
Youth Unemployment (in ten thousands)	32.2	65.5	57.4	40.2	41.3	36.1
Youth Unemployment Rate (%)	5.7	12.2	10.9	7.6	7.9	7

* "Youth" is of the age between 15 and 29

** Source: http//:kosis.kr

Under such a general socio-economic crisis from the rapid increase of the unemployment rate from layoffs and the collapse of the middle class, the downgrade of sovereign ratings and the rapid decrease in foreign exchange reserves, forced Korea to reach out to the IMF for a relief loan to overcome the sovereign default crisis. At the time, the number of unemployed people was 1.5 million, and the unemployment rate was 7%. Youth unemployment rate was even higher at 12.2%.

In the middle of the crisis, the Korean government started paying attention to venture businesses as a new model for overcoming the foreign exchange crisis and encouraging business growth, and established policies to concentrate on fostering venture businesses as a key growth engine to solve the unemployment issue and to shift the paradigm for more economic development. The new paradigm was for changing the industrial economy, led by large businesses, to the knowledge economy which focuses on cooperative business practices for innovations. That was because venture businesses can lead economic growth in the age of the knowledge economy due to their fast adaptability to fast-changing environments, such as technological development activities. So, the development of Korea's venture business sector was the result of the restructuring efforts from the whole Korean economy that tried to survive throughout the 1990s.

In addition, we have another factor which contributed to the success of the Korean government's endeavor for the venture business sector. That was the increasing importance of venture businesses in the Korean economy, which was due in part to the continuous accumulation of technology and restructuring throughout the country's economic development. Highly concentrated investment in fostering the venture industry in the 1990s by the government was one of the key factors. But the continuous investment of Korea in education and technology development for the past 30 years was another important factor that accelerated the growth of technology startup firms and their development.[2]

2. Chung(2005), p.2.

Meanwhile, one the reasons the venture businesses in Korea emerged after the mid 1990s was the business opportunities that were created by the revolution of information technology. In the new market formed by the Internet and computer related technology, many of the business fields were in their development stage. The situation gave a lot of opportunities for venture firms in Korea. Internet also played an important role in reducing entry barriers and transition costs, thus contributing to the reduction in disadvantages from "smallness". So, the roles of the computer, software, communication, and Internet based IT venture firms increased.

In fact, the Korean government actively created and implemented venture business policies because it was almost impossible to utilize market functions to help innovative firm creation and growth, considering the previous large-business-centered economic policies. So, the Korean government pushed for government-led, venture support policies to promote rapid growth in a short period, and it played direct roles in selecting and supporting promising and innovative firms.

Various venture fostering policies have been tried, such as venture certification, benefits for ventures, nurturing KOSDAQ market and venture capital, expanding government finance for venture investment, and other venture start-up promotion policies that attracted talented individuals. In addition, other incentives included granting stock options, allowing professors and researchers to take leave of absences and hold multiple positions in case of venture start-ups, allowing lab factory installations on-campuses, exceptions for military duties for venture employees, and lowering capital limits for venture startups.

As a result of those policy efforts, a lot of venture businesses were established in Korea at the end of the 1990s, and a lot of young people wanted to do their own business because a venture CEO was their dream job, which helped the Korean economy create a lot of jobs and overcome its financial crisis.

1.2. Venture Policy Development Process

1.2.1. Before the Crisis

In the beginning of 1997, the government established the policy that nurtured venture businesses as a fundamental measure for reforming its industrial structure centered on conglomerates. It began to work on enacting the "Special Measures for Promotion of Venture Businesses Act" to legally support the push for initial steps, and enacted the law in August of that year. Detailed processes for the venture policy development are as follows.

① The government began to draft a 5-year plan for revitalizing venture start-ups and decided venture policies was the highest priority of economic policies in 1997.

② President Kim, Young Sam ordered the Small & Medium Business Administration (SMBA) to "establish measures to nurture promising venture businesses and exporting SMEs" (February 14, 1997).

③ The President emphasized economic recovery in his statement to the nation: "Shaping conditions for the young, ambitious generation to easily start businesses" (February 25, 1997).

④ A private and public joint group for venture promotion measures consisted of venture-related institutions and experts in relevant authorities, composited and operated (held meeting with venture-related organizations such as the heads of SMBA, Korea Venture Business Association, and Daedeok 21st Century Forum) (January~February, 1997).

⑤ Economic Ministerial Meeting prepared the 'Measures to revitalize the economy through SME start-up and restructuring', and reported to the president (March, 1997).

⑥ The administrator of SMBA reported the "General Measures for Venture Start-up Promotion" to the president (March, 1997).

⑦ The extended Economic Ministerial Meeting under the chairmanship of the president announced the "Economic Recovery Plan" focusing on 'Venture Start-up Revitalization' (April 1st, 1997).

* Main content of the Economic Recovery Plan regarding Venture Business

ⓐ Expansion of finance for investment in venture business and tax exemptions,

ⓑ Permission for venture capitals to invest in foreign companies, income tax deduction and exemption from audits on sources of operation funds for venture capitals, alleviation of limits on distribution to venture businesses for conglomerates,

ⓒ Creation of a venture complex, free technology support to research institutions, adoption of leave of absences for professors and exceptions for military services, and

ⓓ Installation and management of Venture Business Revitalization Committee (meeting for high ranking officials in government agencies)

⑧ The National Parliament enacted the "Special Measures for Promotion of Venture Businesses Act" (August, 1997).

1.2.2. During the Crisis

After the outbreak of the Korean foreign exchange crisis and the inauguration of the Kim Dae Jung administration, urgent actions for economic recovery such as revitalizing investment in ventures were announced and implemented. Support for venture businesses now formed the basis for economic policies, and building the infrastructure for creating an environment conducive to forming capital markets and measures for an increase in talented manpower. During the turmoil of the crisis, the Korean government's policy focus was to draw private funds to businesses so that they were able to avoid bankruptcies due to the lack of operating capital. The main measures are as follows:

① The source of venture capital funds which were invested for venture businesses were exempted from inspection by the Korean government (December, 1997).

② National Tax Service (NTS) announced the "General Tax Measures for Venture Business Support" which included the elimination of the limit on venture acquisition by foreigners, and exemption of tax inspection on venture businesses for two years (May, 1998).

③ Korean government announced the "Measures to Revitalize KOSDAQ" including the permission to acquire treasury stock, issue non-voting stocks, and ease the requirements for listing in KOSDAQ and for initial public offerings (June, 1998).

④ The National Parliament amended the "Special Measures for Promotion of Venture Businesses Act" which included ⓐ the adoption of stock option system for venture businesses, ⓑ permission for highly educated manpower such as professors and researchers to hold executive positions in ventures, and ⓒ permission to establish a lab factory on university campuses (December, 1998).

2. Policy History to Support Venture Businesses

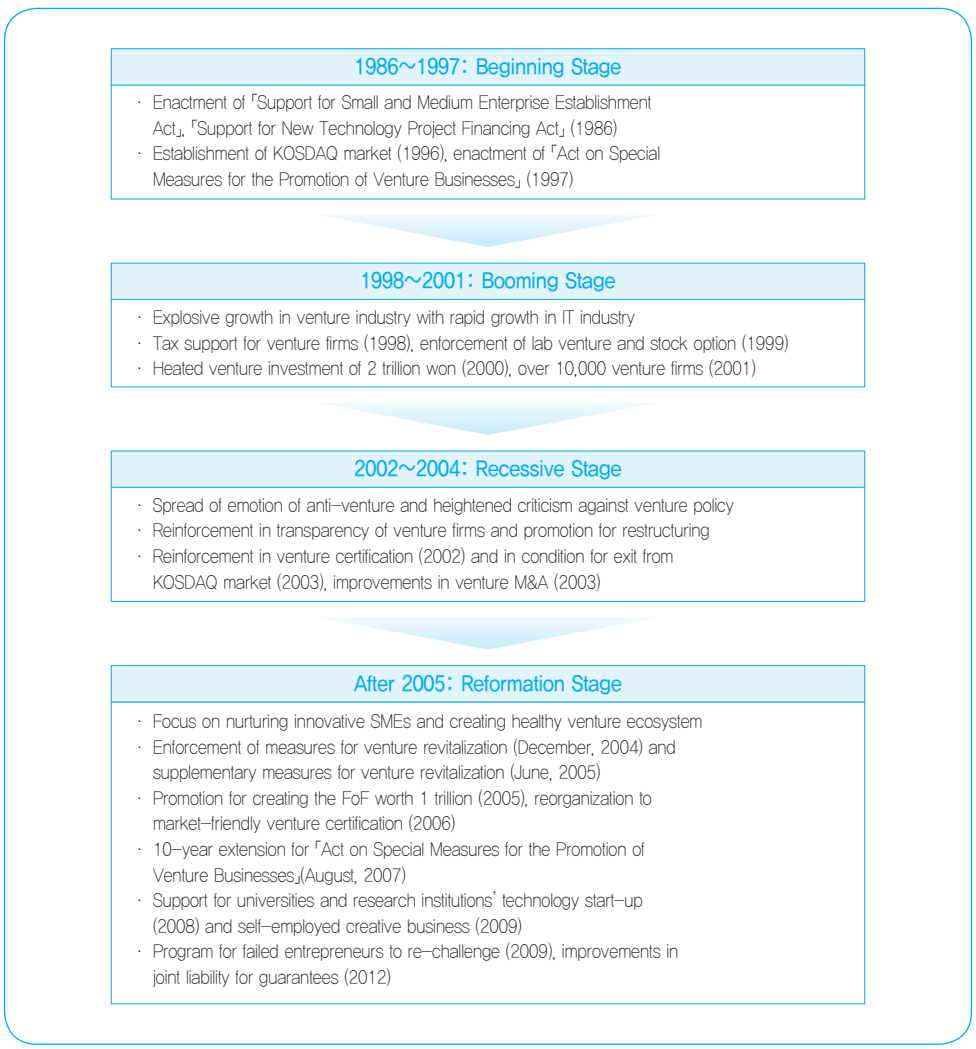
2.1. Overview of Venture Policy History

Even if the history of venture business support policies in Korea is not very long, since it began to shape its structure from 1997, we can categorize the history into four stages: ① Beginning Stage (1986~1997), ② Booming Stage (1998~2001), ③ Reformation Stage (2002~2004), and ④ Resetting Stage (2005~). In the beginning stage, the Korean government set some measures to build an infrastructure for creating venture businesses, such as laws for technology startup support and the KOSDAQ market. In the booming stage, there were a lot of measures and policies to facilitate venture formation and investment. In the recessive stage, the government tried to change venture business policies to be more transparent and effective. Finally, in the resetting stage from 2005, the Korean government

focused on nurturing innovative SMEs and creating a healthier venture ecosystem, in which it can encourage private economic agents to do business for new and growing ventures in more "market-friendly" ways.

In the following section, we summarize the major policies or programs for venture business creation in each stage of venture policy development, followed by the lists of programs or events regarding venture business policies.

Figure 1-1 | Stages of Venture Business Policies



2.2. Development Venture Policies or Events

2.2.1. Beginning Stage

Even if there was no "venture"-focused policies or measures before 1997, there were some measures for facilitating technology startups, such as the enactments of 「Support for Small and Medium Enterprise Establishment Act」 and 「Support for New Technology Project Financing Act」 in 1986, and the establishment of the KOSDAQ market in 1996. Those acts aimed to encourage private investors to invest in innovative startups so that they could survive and grow. Especially, the creation of the KOSDAQ market was one of the major steps in building the infrastructure for venture booming in the early 2000s.

The Korean government began to make a five-year plan for revitalizing venture start-ups and placed the highest priority on venture policies among the economic policies of 1997, followed by the enactment of the 「Act on Special Measures for the Promotion of Venture Businesses」 in August of 1997. The law was the pivotal legal infrastructure for various government policies, including public investments and deregulations.

2.2.2. Booming Stage

In the booming stage, the government was actively involved in the venture industry through financial incentives and human development assistances, among others. They included the tax support for venture firms (in 1998), the enforcement of lab venture and stock options (in 1999), and the creation of public venture funds (in 1999). Ease of requirements for venture businesses to be listed on the KOSDAQ market, and supporting measures of international marketing activities of venture businesses were other examples. At this stage, the government began to set the criteria for venture businesses eligible for public support, and established the procedure for the confirmation of "ventureness".

Due to competitive measures for venture businesses by related ministries or agencies, such as the Ministry of Trade and Industry, the Ministry of Culture and Tourism, the Ministry of Science and Technology, the Ministry of National Defense, and the Small and Medium Business Administration, there was an explosive growth in the venture industry with a rapid growth in the IT industry. Private investors were also trying to invest in young venture businesses, resulting in the investment of 2 trillion won (in 2000) over 10,000 venture firms (in 2001), which contributed to the increase in the number of venture businesses designated by the government during this stage.

Figure 1-2 | Venture Business Policies in the Booming Stage

〈1997〉

① Report to the President on 'Measures to Revitalize the Economy through SME Start-up and Restructuring' (Economic Ministerial Meeting, March),
② Venture start-up road shows to promote venture start-ups by explaining policies to support start-ups and introducing successful cases to major colleges (April),
③ Partial exemption of technology fees for start-ups that participate in government technology development transfer programs (tech fee: 50% of government funding → 30%)(May),
④ Special credit support for venture founders to issue credit guarantees from the Korea Technology Finance Corporation to pre-entrepreneurs such as professors and researchers with proven research experiences and business plans (June),
⑤ Enactment of the 「Act on Special Measures for the Promotion of Venture Businesses」 (August),
⑥ Hosting start-up competitions for college students and support for start-up clubs (October): Start-up competitions (Top prizes of 20 million won and unsecured credit guarantee of 5 hundred million won) and start-up clubs (support of 5~10 million won for expenses for startup activities),
⑦ Measures to reform and nurture the KOSDAQ market (November): Opening a new section exclusively for venture businesses and reinforcing protection for investors, and
⑧ Exemption of inspection of the source of fund for venture capital investments (December).

〈1998〉

① Designation of venture business clusters (April): Industrial Complex Corporation's Venture Center,
② Establishment of general measures for revitalization of venture start-ups for undergraduate and graduate students (April): Opening courses for start-up at universities and laboratories, supporting expenses for activities of start-up clubs, and hosting start-up competition for college students,
③ Presentation of the plan for venture start-ups and stabilizing employment (April): loans for start-up fund to SMEs and ventures using IBRD fund,
④ Adoption of venture business certification system (May),
⑤ Removing limits on venture stock acquisition for foreign companies and regulations on investment in venture capital fund (May),
⑥ Announcement of general measures of tax support for venture businesses such as two-year exemption of tax inspection (NTS, May 1998),
⑦ Presentation of measures to revitalize KOSDAQ market (June): Permission to acquire treasury stock and to issue non-voting stocks,
⑧ Support for advertisement at public broadcasting systems for venture businesses (July): 30% discount on TV(KBS · MBC · SBS) commercials and 70% discount on radio advertising rate,
⑨ Amendments to the 「Act on Special Measures for the Promotion of Venture Businesses」 (December): introducing stock options to venture businesses, allowing high-quality human resources such as professors and researchers to hold executive positions in ventures, allowing lab factories on campuses, and

⑩ Tax supports for start-up investment (December): ⓐ Expansion of local tax exemption for start-up businesses (75 → 100%), ⓑ Non-taxation for margins of transfer in venture investment in venture capital firms and venture capital funds, ⓒ 20% income tax deduction for investment in ventures for private investors and non-taxation for margins of stock transfer.

〈1999〉

① Establishment of legal faculty group to support exporting SME and venture firms (February),
② Introduction of project financing method of venture capital firms for culture industry (March),
③ Alleviation of minimum amount for establishment of venture capital fund (3 billion won → 1 billion won) (May),
④ Presentation of measures to revitalize the KOSDAQ market (May): inclusion in deductible expenses up to 50% for KOSDAQ-listed small & medium corporations and limits of stock sales by affiliated people,
⑤ Introduction of 'Venture Net' which provides real-time information on venture firms (June),
⑥ First start-up competition for professors and researchers (June): 500 million won for start-up fund prize if the winner starts a business,
⑦ Reform of conditions for venture certification such as pre-venture adoption (June),
⑧ Expansion of business types for venture businesses (706 business → 1,144 business types)(July),
⑨ Establishment of KOrea Student Entrepreneurs Network (KOSEN) (October), and
⑩ Announcement of measures for sound development of the KOSDAQ market (December): ⓐ Improvements in management of KOSDAQ-listed businesses and exit system, ⓑ Reinforcement of unfair trade prevention, and ⓒ Improvements in KOSDAQ market management system.

〈2000〉

① Amendments to Support for Small and Medium Enterprise Establishment Act:
ⓐ Adoption of limited liability and registration for venture capital fund,
ⓑ Adoption of civil automated approval for start-up business plan approval, and
ⓒ Adoption of spinoff start-ups,
② Establishment of DASAN Venture for direct investment in venture businesses and distribution to venture investment funds (May),
③ Establishment of venture center for one-stop service support with venture supporting institution such as the Korea Venture Business Association, Korea Venture Business Women's Association, and Venture Capital Association all located in one place (May, Korea World Trade Center in Samseong-dong),
④ Opening of Korea Venture Center (KVC) to support domestic venture businesses by establishing office in the United States, moving into business incubation, and joint research & development with foreign institutions,
⑤ Designation of 20 Venture Business Promotion Zones (November), and
⑥ Opening of 'Changupnet,' an online information network, which guides all start-up processes from start-up to fund support (December).

〈2001〉

① Amendments to the「Act on Special Measures for the Promotion of Venture Businesses」 for adoption of private investment fund registration system and simplification of stock option grant procedure (voting in general stockholders' meeting → board of directors) (February),

② Opening the small-and-medium venture business start-up exhibition and venture investment mart (May, COEX),

③ Designation of 19 private venture centers in 11 countries abroad to support ventures' international marketing (August), and

④ Measures to improve the financial system to revitalize the KOSDAQ market, such as reforming the listing and exiting criteria, and improvements in restrictions on stock sales for venture capital companies.

2.2.3. Recessive Stage

In 2002, the KOSDAQ market almost collapsed due to the burst of the "dot-com bubble", and a lot of venture businesses faced a liquidity crisis because of the sharp decrease in the amount of venture investments. The main reason for the venture bubble derived from the weakness in the business model of venture firms. Owing to the rapid internet penetration in Korea, dot-com companies accounted for a significant number of venture firms, and most of those companies didn't have profitable business models from the get-go. Profitability of those companies became worse due to unreasonable advertising expenses and severe competition, and there were only a limited number of venture firms which had competitive technologies. In addition, in those years, some managers of venture businesses used corporate resources for their private purposes, resulting in prosecutions and court trials, which made public opinions less favorable for venture businesses. So, there was an anti-venture sentiment spreading and heightened criticism against venture policies.

In this recessive stage, the Korean government tried to change its direct support policies to indirect ones, particularly by utilizing the private sector's expertise in determining venture business and attracting private resources. The government introduced the valid time of venture designation, stricter criteria for venture business, and the expansion of a venture infrastructure to remove moral hazard behavior of venture business managers. The government also increased the budget for business incubating systems in universities and research centers, began to create the 'Fund of Funds'. This was aimed at reinforcing transparency of venture firm management and promoting restructuring, which can be attributed to the reformation stage after the venture bubble burst and lasted until 2005.

Figure 1-3 | Venture Business Policies in the Recessive Stage

〈2002〉

① Announcement of measures to make venture businesses sound and robust by reforming venture certification such as a self-diagnosis system for ventures, and enhancement in soundness of venture capital (February),
② General survey on venture businesses to distinguish good firms and to clarify if the certification criteria was sufficient or adequate for selecting promising venture businesses (March),
③ Amendments in the 「Act on Special Measures for the Promotion of Venture Businesses」: ⓐ Reform in conditions for venture certification such as the inclusion of capability to innovate, ⓑ Reform in condition for designation of venture cluster facility, and ⓒ Exceptions for venture M&A such as simplification of M&A procedures (August),
④ Announcement of measures for ventures to make a new leap, such as additional investment of 500 billion won by the end of the year, including both government fund, like the national pension, and private fund, to boost venture investment, and
⑤ Opening of Korea small and medium venture start-up festival, focusing on start-up items and technologies of high school and college students who dream of future venture businesses.

〈2003〉

① Establishment measures to revitalize venture M&A, alleviation of legal conditions, such as authorized exception of payment in kind for stock exchange and restriction on appraisal right by stockholders for small M&A(June),
② Reinforcements in venture businesses going abroad through the installation of joint distribution center in Boston and designation of private firms as venture centers (25 centers in 12 countries),
③ Establishment of five-year plan for start-up revitalization, including seven tasks such as establishment of basis for start-up infrastructure, construction of start-up package support system, and
④ Opening Korea venture start-up festival by integration of various start-up events such as start-up exhibition and start-up competition (December).

〈2004〉

① Improvements to create environment for venture investment: establishment of measures to improve administration and supervision of venture capital firm and development of evaluation model for venture capital firm,
② Expanded installation of venture centers in LA and Paris to support trade and investment promotion of domestic venture businesses and performance as joint distribution and services (May),
③ Amendments in the 「Act on Special Measures for the Promotion of Venture Businesses」 and enforcement ordinances (authorized exception of payment in kind for stock exchange, simplification of M&A procedure) and composition of specialized committee for venture business restructuring (June), and
④ Designating and assisting five graduate schools of entrepreneurship for training start-up experts through systemized and specialized start-up education on entrepreneurial spirit and working knowledge necessary for start-ups (November).

2.2.4. Reformation Stage

During the burst of the "venture bubble", a lot of venture firms went bankrupt; venture businesses were hardly able to garner private investments for their startups and growth. However, those firms with profit models or competitive technologies had an opportunity for progress and through synergy effects from strategic alliances and M&As, they were able to grow their businesses. In addition, the number of venture businesses that succeeded through the development of profitable technologies increased steadily.

In the reformation stage of venture policies in Korea from 2005, the government focused on nurturing innovative SMEs and creating a healthy venture ecosystem so that innovative firms can start and grow in the virtuous circle of venture businesses. It also enforced the measures for venture revitalization (December, 2004) and established supplementary measures for venture revitalization (June, 2005). In addition, it quickened the creation of the Fund of funds worth 1 trillion won (2005), and reorganized to market-friendly venture certification (2006). The policies during the period included a 10-year extension for the 「Act on Special Measures for the Promotion of Venture Businesses」 (August, 2007) and support for universities and research institutions' technology start-ups (2008) and self-employed creative businesses (2009). The programs for failed entrepreneurs to re-challenge themselves (2009) and improvements in joint liability for guarantees (2012) were among them.

Figure 1-4 | Venture Business Policies in the Reformation Stage

〈2005〉

① Improvements in the system to enhance capability of venture capitals (March): conditions for venture capital firm registrations (capital of 10 → 7 billion won), and the alleviation of contribution rates for investment funds (5 → 1%),
② Amendments in the「Act on Special Measures for the Promotion of Venture Businesses」to provide the basis for the Fund of Funds and preparation of measure to secure investment sum of 1 trillion won for the FoF (March),
③ Enhancement in transparency of venture capital, including the adoption of the evaluation system and disclosure system for venture capital firms (September),
④ Creating an agency that specializes in the FoF investment management (Korea Venture Investment) (June),
⑤ Promotion of a start-up package 1000 project for linking support of education-fund-location-consulting to founders with technical skills, and
⑥ Reform then venture certification to change the main agent for venture certification (government → private venture financial institution) (November).

〈2006〉

① Presentation of 'measure to advance venture capital' for adoption of asset consignment, provision of private Fund of Funds (June),
② Opening the "Venture Investment Information Center" within Venture Capital Association for administration of electronic report system of venture capital firm and management of venture investment information network (September),
③ Enforcement of support for business transitions for SME through fund support for business transition and installation of business transition support center (September), and
④ Diversification of methods for start-up fund support for pre-entrepreneurs through adoption of letter of guarantee for start-up funds for machinery and facilities manufacturers (December).

〈2007〉

① Announcement of the 'Measure to advance venture capital Ⅱ' for improvements in rate of obligated investment for venture capital firm and venture capital fund, decrease in number of limited liability partners (below 99 → below 49) (April),
② Announcement of new-tech start-up revitalization for universities and research institutions: ⓐ Adoption of a cluster area such as the establishment of companies specialized in commercialization of technologies owned by universities, research institutions, and factories within a site, ⓑ Extension of subjects and period for leave of absence for professors and researchers (venture businesses → start-up businesses, 3 years → 6 years), and ⓒ Expansion of area of lab factories (500m^2 → 3,000m^2) (April)
③ Extension of the「Act on Special Measures for the Promotion of Venture Businesses」to 2017 (August), and
④ Support for students returning from abroad for start-ups through test-operation of business incubator centers and management of start-up advisory panel for students studying abroad (fund, training, consulting) (November).

〈2008〉

① Adoption of a subsidy to start-up investment through 10% support (maximum of 1 billion won) of investment to businesses in manufacturing industry that were founded in non-capital area for three years, from January 2007 to the end of 2009 (January),

② Measures to simplify the start-up process (at the meeting of Presidential Council on National Competitiveness): ⓐ setting up a system to start-up at home, and ⓑ Shortening the incorporation process and period, cost reduction (abolition of notarization and minimum capital) (April),

③ Amendments to the Support for Small and Medium-sized Enterprise Establishment Act enforcement ordinances for alleviation of the rate of obligated investment of start-up investment fund (50 → 40%), and increase of the minimum amount to create start-up investment fund (1 → 3 billion won) (May), and

④ Measures to revitalize technological start-ups (at SME strategic meeting): ⓐ Package support from evaluation of pre-entrepreneur's idea to commercialization, ⓑ Revitalization of direct start-up by professors and researchers, and ⓒ Expansion of the FoF size, alleviation of regulation on investment on start-up promotion (June).

〈2009〉

① Amendments to the「Act on Special Measures for the Promotion of Venture Businesses」for Permission for leave of absence during pre-start-up periods and alleviation of regulations on start-up specialized companies (January),

② Expansion of start-up venture fund: (2008) 640 billion won → (2009) 1 trillion won (January),

③ Simplification of startup procedures: ⓐ Abolition of minimum capital (above 50 million won) in case of incorporation, and ⓑ Exemption of notarization of articles of association, obligation of appointment of an auditor, and ban on use of similar company name in case of small-scale startup (capital of 1 billion or less), and

④ Measures to promote venture startups and growth (Emergency Economic Policy Conference): ⓐ Establishment of five-year plan for startup training, ⓑ Foundation of re-startup fund, decrease of burden of joint guarantee on SBC policy fund, ⓒ Revitalization of technological startup by universities and research institutions, ⓓ Promotion of in-house and spinoff startup from conglomerates, and ⓔ Expansion of venture fund distribution by universities and insurance companies.

〈2010〉

① Opening a home startup system for the integrated link of work system among six institutions to make online incorporation possible (January),

② Measures to nurture self-employed creative businesses in the mobile industry (Crisis Management Meeting, March),

③ Designation of professional organizations such as universities as the App Center (April), and

④ Measures to support youth technology and knowledge startups: ⓐ Large expansion of startup-exclusive R&D (2010: 33 billion won → 2011: 100 billion won), ⓑ Decrease of debt burden to venture CEOs, and ⓒ Establishment of Korea Entrepreneurship Foundation to expand the base of entrepreneurship (August).

〈2011〉

① Establishing the Korea Entrepreneurship Foundation with public and private joint funding for entrepreneurship education (March),
② Opening of the Youth Startup Academy to support technology and product development , accepted the 1st class (191 students) (April),
③ Supplementary measures that promoted global startups: ⓐ Expansion of leave of absence for entrepreneurial professors and researchers, ⓑ Support for startup businesses to go to Silicon Valley, ⓒ Reinforcement in tax support to revitalize angel investment, ⓓ Expansion of business incubation through venture capital (VC) (incubating fund),
④ Creation of the Korea-Israel joint fund (35 billion won, July), and
⑤ Measures to revitalize Hope Korea, a youth startup (government-ruling party consultation, September).

〈2012〉

Measures to promote youth startups and re-challenges: ⓐ Management of angel supporting type secondary fund, ⓑ Creation of KORUS fund to support advancement into Silicon Valley, ⓒ Foundation of KONEX, stock market exclusively for SMEs, ⓓ Creation of matching fund for small-to-middle ventures to M&A support promising startup businesses, ⓔ Installation of agency for test product production, ⓕ Installation of Re-startup Support Committee (Credit Counseling & Recovery Service) (June).

Chapter 2

Venture Business Certification and Venture Policies

Venture Business Certification and Venture Policies

1. Definition and Certification of Venture Businesses

1.1. Definition of Venture Businesses

Generally speaking, a venture business is a SME pioneering a new market on the basis of independent technology and idea, and energetic entrepreneurship. Every country that tries to support venture businesses through some form of support programs needs to define the policy target so that they can focus on creating jobs and the value added. The US government defines venture business as "SME that runs on independent basis of new technology or idea that has high risk but also high expected return if successful" in the Small Business Investment Act, while Japan's definition is "SME in its early stages that plays an active role in new business on the basis of new technology developed from intensive R&D". In contrast, Taiwan designates "technology-intensive SMEs in high tech industries" every 2 years.

Table 2-1 | Definitions of Venture Business in Main Countries

Country	Concept	relevant law
United States	- SME that runs on independent basis of new technology or idea that has high risk but also high expected return if successful	Small Business Investment Act
Japan	- SME in its early stages that plays active role in new business on the basis of new technology developed from intensive R&D ① above 3% of R&D proportion ② less than 5 years of startup	Temporary Measures on promotion of creative business activity of SME Act
Taiwan	- Technology-intensive SMEs in high tech industries designated every 2 years by the government	Promoted Industry Ordinance Clause 8

Source: Small and Medium Business Administration, 2012

1.2. Criteria of Venture Business

The Korean government began to define venture business from the enactment of the "Act on Special Measures for the Promotion of Venture Business", and the law has a detailed criteria and process for the certification of venture businesses. Currently, Korea has three ways and criteria for venture certification. The first way is according to the market decision by venture capital companies, where if the venture capitalists determine to invest in a company, then the company is considered a venture. The other two ways and criteria are somewhat policy-oriented ones. Even if a venture business has not been able to be chosen by venture capitalists for their investment, if the venture business does a lot of R&D activities or its technology level is significantly high, then the government defines it as a venture so that those certified ventures can attract private funds or capable employees for their business activities.

Table 2-2 | Korean Criteria for Venture Business

Venture Type	Criteria for Venture	Evaluating Institution	Certifying Institution
Venture Capital Investment	• Investment of 10% or more of its capital from venture capital companies. • The amount of investment should be more than 50 million won.	(Venture Capital Companies)	Venture Capital Association
High Technology	• High tech company such that KTFC or SBC can guarantee or lend more than 80 million won. • Rate of guarantee or loan amount out of gross asset should be more than 5%. • Total score should be above 65 in technology assessment.	Korea Technology Finance Corporation, Small Business Corporation	Korea Technology Finance Corporation, Small Business Corporation
R&D Activities	• Must retain company-affiliated research institute. • Must spend more than 50 million won for R&D activities. • R&D expenditure should more than 5~10% of total sales. • Must score excellent in commercialization assessment.	KIBO, SBC, KEIT, NIPA,, KDB, KETI, KHIDI, KISTI, KIPA, KIER, ETRI	Korea Technology Finance Corporation, Small Business Corporation

Source: Small and Medium Business Administration, 2012

1.3. Certification of Venture Business

If a company wants to get special treatments as a venture business, the company needs to provide proof or certification so that public agencies, private investors, banks, or any assisting bodies consider it as eligible for the policies or programs. So, a clear criteria and certification procedure for venture designation is the first step for venture business policies.

According to the criteria, a company that wants to be designated or certified needs to apply for the certification with relevant documents and proof. Like the changes in the criteria for venture certification, the certification authorities and procedures have also been changed. In the booming stage, the government got the applications and checked their eligibility for venture certification through the regional offices of the Small and Medium Business Administration, while it has tried to introduce the roles of private or public institutions that have expertise in innovation, financing, and accounting, so that government agencies do not get directly involved in the determination of a company's "ventureness" any more.

The following table shows the initial criteria for venture business in Korea, which was enacted by the Act on Special Measures for the Promotion of Venture Businesses in August 1997 for the first time. The certification began in May 1998, and it had originally four types of ventures: ① venture investment firms, ② R&D firms, ③ patent technology development firms, and ④ advanced technology firms. Regional offices of the Small and Medium Business Administration certified the eligibility with proof, such as investment confirmation, financial statements, and technology rating documents, and issued the "venture enterprise" certificate.

Table 2-3 | Initial Criteria for Korean Venture Business

Types	Conditions
Venture investment firms	Investment of 20% or more of capital by startup investment company (10% for stocks)
R&D firms	5% or above of R&D proportion
Patent technology development firm	50% or more of sales by new technology
Advanced technology rated firm	Rated excellent in technology and commerciality from rating institution

Source: Small and Medium Business Administration, 2012

In May 2001, the government revised a proportion of R&D expenditure for venture certification by introducing the difference in industries, and allowed industry-specific proportions from 5 to 10%. Examples include machinery and equipment manufacturing (7%), medical, precision, and optical instrument (8%), information processing, and other computer operation (10%).

Due to the criticism of the venture bubble and moral hazards of venture businesses, the government changed the criteria from four types to three types by merging the patent type and the advanced technology type, and it changed the certification process into a two-step system: the first step for evaluating "innovativeness", and the second step for evaluating each type's requirements in November 2002.

Table 2-4 | Criteria for Korean Venture Business in Recessive Stage

Class	Basic condition (1st step)	Condition per type (2nd step)
Venture investment firm	Innovative capability evaluation (Score of 50 or above)	10% or more of VC investment
R&D firm		5% or more of R&D proportion
New technology firm		firm retaining patent, high-tech

Source: Small and Medium Business Administration, 2012

In the stage of reformation of venture policies, the government tried to reform the criteria and the certification procedure to a market-friendly venture certification system in 2006. It removed the criterion of the "new technology firm", and introduced "technology-based guarantee and borrowing firms". The government transferred the issue of venture certification to other private or public institutions (KIBO, Small Business Corporation, Venture Capital Association). It also introduced the online processing of all procedures through Venture Net managed by KIBO. In December 2009, there were minor changes in the procedure, such as accepting technology evaluations without guarantees or loans, and the elimination of the investment maintenance period for venture investment firms.

Table 2-5 | Criteria for Korean Venture Business in Reformation Stage

Venture type	Condition for venture certification	Certifying institution
① Venture investment firm	• 10% VC investment ratio • 50 million won or more of investment	Venture Capital Association
② Technology-based guarantee and loan firm	• 80 million won or more of guarantee or loan • Excellent in technology assessment	KIBO, SBC
③ R&D firm	• 5~10% of R&D investment ratio • Excellent in commerciality assessment	KIBO, SBC

Source: Small and Medium Business Administration, 2012

2. Venture Business Policies

2.1. General Policy Directions

Korean venture business policies originated from the time of the 1997 financial crisis. The policies were the major industrial policies to overcome the economic crisis. As we have seen in the previous section, the official definition of venture business in Korea was introduced in 1997, which was the same for venture business policies.

In 1997 and 1998, the main goals of the country were to increase the number of jobs. Since conglomerates were decreasing jobs due to bankruptcies and corporate restructuring, the government wanted to change its policy targets from large companies to small companies. Because it is clear that innovative or high-technology companies are more effective at job creation due to their high-growth characteristics, the government set the venture business as a major economic player for its economic recovery and job creation plan.

In the beginning of venture support policy creation, the government recommended, and even pushed government agencies to make many policies or programs to facilitate venture creation and growth. So, the venture road shows and student startup events were very common at university campuses at that time, and entrepreneurship programs and the incubating system was strengthened so more young people could participate in the activities of venture creation. However, during the venture bubble period, it was pointed out by many people that building a more sound structure to support policies is more important than encouraging people to start their business recklessly. In the 2000s, therefore, the government wanted to set a virtuous circle regarding venture business life cycles.

The main policy direction of the current venture business support system is to create a virtuous cycle environment where the venture industry goes through the course of "startup → growth → exit → re-startup". Recently, eight venture startup measures were established and promoted since 2008, and there have been many positive changes such as social consensus and interest in venture startups due to ground-breaking modifications in the startup support system, such as youth startup support and startup process reformation.

Among them, the venture business startup policies are composed of various policies for each business phase.

① "Preparing Phase": Startup training program such as BizCool, startup education, startup clubs for cultivation of entrepreneurship and enhancement of startup minds for youth

② "Verification Phase": Support for mentoring business plans, verifying the validity of commercialization, production of prototypes, and marketing assistance services

③ "Formation Phase": Simplified online "home startup system" (8 steps 14 days → 2 steps 5 days) instead of a complicated incorporation procedure at the phase of executing startup

④ "Independence Phase": Support of the growth promotion program, such as R&D exclusively for startup businesses, startup loan worth 1.4 trillion won, and startup consulting for startup businesses to quickly settle in the market

The main policies at each stage are as follows:

2.1.1. Youth Startup Revitalization

Under the basis of the selective support for prepared young entrepreneurs, the Korean government provides investments and loans of 1.6 trillion won to supplement the inferior financial environment in the early stage of startups so that they can successfully start up with innovative ideas and technologies even if they don't have initial startup funds.

The Small Business Corporation began to implement a "loan repayment adjustment type startup fund" (50 billion won), which is a method for the government to share the youth's risk of a startup in order to allow youth who have failed in business to restart their economic activities again by waiving half of the startup fund. This scheme encouraged young people to venture into their own business.

Youth startup supports have ranged from government agencies, such as Small & Medium Business Administration, public corporations such as Small Business Corporation, and private institutions such as universities and research institutions. We are going to analyze some of those programs in later chapters.

〈Examples of Youth Startup Support Programs〉

* ① Startup fund of 210 billion won solely for youth,
  ② Guarantee exclusively for youth startup 760 billion won,
  ③ Angel investment matching fund 160 billion won, and
  ④ Youth Startup exclusive R&D 96.5 billion won.

2.1.2. Angel Investment Revitalization

One of the biggest difficulties for startup businesses in the early stage is financing, where angel investors and venture capitalists can play an important role. Angel investment means "supplying seed money to startups as investment, enhance the value of a company through

management consultation and mentoring, and retrieve investment profits". In the United States, angel investment acts as a main source of fund to businesses in the early stage while in Korea angel investment is insignificant. Fifty percent of all venture investments is angel investments in the US, while only 3% comes from angel investors in Korea. As in the United States, where successful venture entrepreneurs in Silicon Valley became angel investors for other starting ventures, Korea also needs to build an ecosystem with a virtuous cycle of angel investment.

Fortunately, the first generation of venture businesses such as Bon Angels, Primer, and Fast Track Asia are emerging as angel investors, which is a good sign that an angel investment ecosystem gives birth to new entrepreneurs from successful experiences of first venture generations. The Korean government has tried to implement new angel funding programs to promote more angel investors through the angel matching fund, angel support center, and expansion of tax support to encourage angel investment. 'The Angel Investment Support Center' was launched for one-stop support of investment activities of angel investors for finding out and evaluating new ventures. In addition, to reduce the risk of angel investment, the government created the first 'Angel Investment Matching Fund' worth 10 billion won in 2011 through which the government puts the same amount of matching investment in ventures with angel investment. Furthermore, the government gives a higher ratio of tax deductions to angel investors to draw more funds for angel investments.

2.1.3. Expansion of Early Stage Investment of Venture Capital

Recently, some of the main venture businesses like NHN, Ticketmonster, and Osstem Implant have been successfully growing through venture capital investments, which show venture capital investment is very effective in a venture's growth. In 2011, 40% of large venture businesses with annual sales of more than 100 billion won received venture capital investment, the average of which was 4.7 billion won per firm.

The Korean government encouraged this system with the creation and management of a fund specialized in the early stage startups, which requires venture capitalists to invest more than 70% to early stage startups if they want the co-investment from the public venture fund ("Fund of the Funds"). So, recently, the amount of venture capital invested in startups that are less than three years old increased from 207 firms with 319.2 billion won in 2010 to 235 firms with 372.2 billion won in 2011. The most important player is the Fund of the Funds, since it accounts for 80.6% of the early stage startup investment in 2011, as the table shows.

Table 2-6 | Rate of FoF Investment in Early Stage Startups

(unit: in hundred million won, %)

Class	2006	2007	2008	2009	2010	2011
Entire venture investment (A)	7,333	9,917	7,247	8,671	10,910	12,608
Entire early stage startup investment (B)	2,224	3,650	2,908	2,476	3,129	3,722
FoF early stage startup investment (C)	393	1,366	1,334	1,462	2,256	2,999
Rate of FoF investment (D=C/B)	17.6	37.4	45.9	59.0	72.1	80.6

Source: Small and Medium Business Administration, 2012

2.1.4. Revitalization of Exit Markets

Venture capital companies need to retrieve their funds to make profits and to make additional investments, which is why the exit markets for venture capitalists are so important. One of the two routes of exits is the market for mergers and acquisitions. The Korean government tried to streamline and simplify the IPO (initial public offering) market so far, especially for venture businesses by simplifying processes and requirements for listing on the market. Now it is trying to revitalize the M&A market by upgrading the M&A information network to make M&A intermediary support possible and lead substantial matching arrangements to help venture capitalists retrieve its investments in ventures, since the rate of investment retrieval through M&As in Korea is only 7.1%, while in the US it is 89.2%. It tries to expand secondary funds and to open a new stock market for venture businesses only, which is called 「KOrea New EXchange (KONEX)」.

In addition, from the result of a survey on venture businesses with annual sales of more than 100 billion won, R&D and overseas expansion activities are the key conditions to break through the growth limits. The rate of sales increase of venture companies with overseas annual sales of more than 100 billion won is 10% higher than that of domestic companies. So, the Korean government has tried to expand programs for ventures to be able to market their products and services overseas, and programs to help ventures make their products more attractive and innovative. The programs include the “World Class 300 Program” and “Hidden Champion Program”, through which the government assists innovative ventures to do R&D and marketing activities to grow, especially in the markets with free trade agreement areas with Korea.

2.1.5. Re-challenge of Honorable Failures

In the case of Silicon Valley and Israel, experiences and know-how gained from venture failures is considered an asset to society due to the culture of tolerance for failures, where smooth re-challenge is easily possible, and a lot of entrepreneurs have been successful with their second or third startup. In Korea, one of the main reasons that hinders re-challenge of ventures is the "joint guarantees" from the loan financing system and the negative stigma on failed entrepreneurs. If a businessman fails, he loses all the properties because he needs to co-sign on the firm's loan documents to guarantee the firm's repayment, so he needs to repay the business loans by selling all the properties he owns. The Korean government tried to fix this situation, and the joint guarantee for the business loans by family members was abolished in 2008 and the personal joint guarantee by the CEO for the business loans was improved by waiving the guarantee under some situations.

In addition, the government tries to change people's perspective on failed entrepreneurs, since a failed businessman is practically prevented from future economic activities, let alone a new venture business. So, the government conducts campaigns for the role of entrepreneurs through the "Entrepreneurship Foundation", and it also gives re-startup funds for those who have a new innovative business plan, and provides a special startup education program for them.

2.2. Policy Structure for Venture Business

Government support policies for venture business can be categorized according to the policy functions and implementation methods for the policies (direct versus indirect policies). Direct support policies include public funding, tax incentives, and credit guarantees, while indirect support policies are deregulation for startup process and human resources, and stock market revitalization.

With the strong will of President Kim Daejoong, every ministry tried to implement some measures for venture business support. Among them, the Small and Medium Business Administration, which is in charge of the law on venture business, was at the center. The agency has been implementing a lot of direct support policies including entrepreneurship education, startup incubating and consulting, public loans and investments, and marketing programs. The Ministry of Culture and Tourism and the Ministry of Information and Communication also participated actively in venture business policy initiatives. The Ministry of Defense and the National Procurement Agency were also participating through defense technology development and government procurement preferences for high-tech products or services. For tax incentives, the Ministry of Finance and Economy formulated startup tax exemptions, and other tax incentives for venture capitalists and investors. In

addition to the government agencies, public institutions also played an important role for booming venture business through, for example, preferred contracts and reduced rates for services. Private institutions, such as banks and large retailers, have also offered preferred treatments to venture businesses.

"The Committee on Venture Policy Coordination", established by the Venture Act, played the role for coordinating related ministries' venture business policies. The Committee comprised of the chairman (Minister of Trade and Industry), vice-chairman (Administrator of Small and Medium Business Administration), 14 vice-ministers of related ministries, and four non-official experts. The Committee was called for meetings for major policy making measures, such as changes in the criteria for venture certification and business type adjustment for ventures, and coordination purposes between ministries or agencies.

Current Korean venture business support system can be categorized into venture creation, finance, M&A, tax, and others. Venture creation policies include high-tech startup support, technology transfer program, startup space provision, and tax benefit for startups. Financial supports include startup assistance, public policy loans to startups for facility purchases and R&D, venture investment through the Fund of Funds and angel investment matching program. Especially, expansion of venture capital investment from the government's supply of investment (Fund of Funds, 2005), tax support in case of venture startup, and stock option substantially give big help to venture businesses.

In addition, as a route to retrieve investments, the Korean government simplified the M&A process for ventures, and set up some channels and marts for M&A transactions to be more active. It also applies a simplified procedure and requirement for venture businesses for their listing on the stock markets. Furthermore, public corporations give special discounts to venture businesses for their successful startup and growth.

The summary of each support program is as follows:

Table 2-7 | Support Programs for Venture Businesses

Class		Main support	Based on
Startup	Dual Position of Professors and Researchers	• Possible for professors and researchers to take leave of absence to startup or work as executive in ventures • Possible for professors and researchers to hold positions as representative or executive of ventures	Act on Special Measures for the Promotion of Venture Businesses
	Tech Startup Companies	• Support for commercialization of retaining technology to utilize technology · human and material resources of universities or research institutions for SME startup or commercialization	Act on Special Measures for the Promotion of Venture Businesses
	Industrial Property Right Transfer	• Inclusion of rights such as patent right, utility model right, and design right for subjects of investment in kind for venture businesses	Act on Special Measures for the Promotion of Venture Businesses
	Space for Startup	• Permission for labs to startup (Labs sized less than 3000m^2 of professors and researchers registered as lab factory) • Permission for BI-occupant ventures and startups to register factory	Act on Special Measures for the Promotion of Venture Businesses
		• Possible to install new technology cluster area which is commercialization space of venture and startups within universities or research institutions	Act on Special Measures for the Promotion of Venture Businesses
	Tax Support for Startup	• 50% deduction on corporate tax, income tax of companies certified startup of less than three years (startup venture SME)	Tax Reduction and Exemption Control Act
		• Exemption of registration tax for registration of commercial property within four years of venture certification date	Tax Reduction and Exemption Control Act
	Tax Support for Startup	• Exemption of acquisition tax for registration of commercial property within four years of venture certification date	Tax Reduction and Exemption Control Act
		• 50% property tax deduction for commercial property used for ventures to manage business for five years from venture certification date	Tax Reduction and Exemption Control Act

Class		Main support	Based on
Finance	Investment Support	• Creation and management of FoF that distributes to fund or companies established to invest in ventures	Act on Special Measures for the Promotion of Venture Businesses
		• No limitation of company history for ventures for subjects of startup investment company (fund) * Seven years within establishment for general firms	Support for Small and Medium Enterprise Establishment Act
	Exemption of Income Tax	• Venture stock exchange (distribution share) and profit and loss from trade or evaluation is excluded from profit and dividend of investment trust (tax-free)	Income Tax Law enforcement ordinance
M&A	Stock Exchange and Mergers	• Arbitrary stock exchange possible for ventures (In case of partial stock exchange through strategic partnership, stock issue) • Contraction of appraisal right of dissident shareholders (within 20 → 10 days of the day of approval by general meeting of shareholders) • Simplification of merger procedure : Period of creditor protection (1 month → 10 days from merge confirmation date),Period of notifying opening of general meeting of shareholders (14 days → 7 days)	Act on Special Measures for the Promotion of Venture Businesses
Tax	M&A tax	• Tax postponement in case of stock exchange for strategic partnership	Tax Reduction and Exemption Control Act
		• Non-taxation of transfer income tax for profit from shareholder of partnership company stock exchanging with venture business	Tax Reduction and Exemption Control Act
		• Deduction of cumulative loss in case of merge of venture business	Tax Reduction and Exemption Control Act
Tax	Corporate tax exemption	• Exclusion from gross income for profit from venture business which has venture holding company as subsidiary company	Corporate Tax Act enforcement ordinance

Class		Main support	Based on
Others	KOSDAQ listing	• Preference in case of listed examination (declined standard of capital and return on owners equity, exemption of application of elapsed years after establishment)	KOSDAQ market listing rule (Korea Exchange)
	Discount in electricity cost	• Discount of 13.8% compared to general electricity cost (January 2008~)	Separate electricity rate (KEPCO)
	Broadcasting advertisement	• 70% discount on TV, radio advertising cost	Internal guidance (KOBACO)

Source: Small and Medium Business Administration, 2012

3. Analysis of Venture Businesses

3.1. Trend of Venture Business

In the beginning of the main step of venture policies in the year of 1998, the number of venture businesses designated by the government was 2,042, while it was 27,119 in July 2012, which is a 13.3 time increase in the number of venture businesses in 15 years of venture policies. In the first year of venture certification, there were 2,049 venture firms in 1998, and 10,000 in 2001, and 20,000 in 2010, respectively. The stock of venture businesses has been continuously increasing due mainly to the newly entering venture businesses, especially those less than three years old. With some exceptions between 2001 and 2004, the numbers of new venture businesses have steadily increased until recently. Due to the decrease in the new ventures, those periods showed decreases in the total number of venture businesses at the end of each year. In 2009 and 2010, there were large increases in the number of new and total number of venture businesses, which some people call a "second venture boom", while other people assert that it is not a qualitative increase in ventures because the increase is due mainly to government policies and intentions. Nevertheless, it is a good sign for the economy that in the recent 5 years, there have been more than five thousand new venture businesses per year, which is the main reason for the increase in the number of venture businesses.

Figure 2-1 | Trend of Venture Businesses

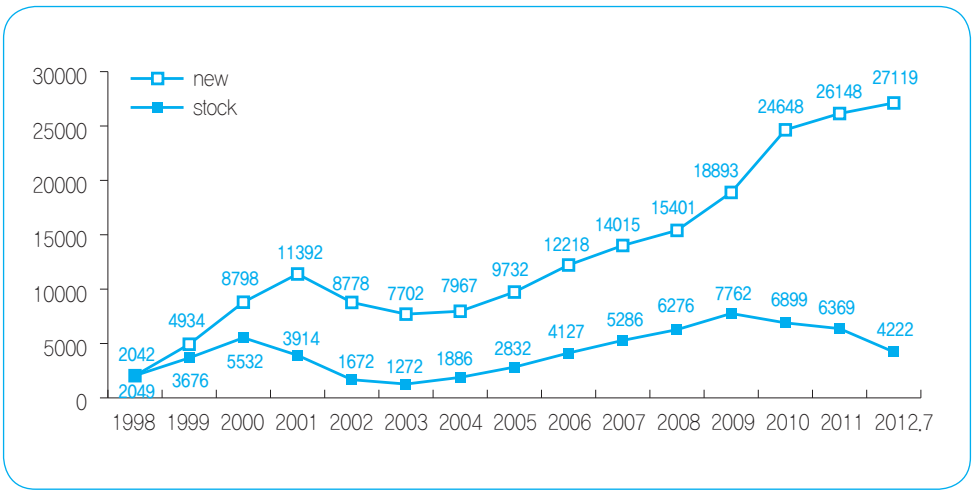


Table 2-8 | Composition of Venture Businesses

Class	2007	2008	2009	2010	2011
New ventures	5,155	6,126	7,790	6,171	**6,352**
Maintenance	4,889	1,007	790	11,927	**11,956**
Renewal	3,971	8,268	10,313	6,547	**7,840**
Total	14,015	15,401	18,893	24,645	**26,148**

Source: Small and Medium Business Administration, 2012

Especially, new ventures that are less than three years old accounted for 34.9% in 2007, and the portion has continuously increased to 54.1% in 2011 when 3,439 new ventures were less than three years old, among the total new ventures of 6,352 firms.

Table 2-9 | Proportion of New Ventures of Startups Less Than 3 Years Old

Class	2007	2008	2009	2010	2011
New ventures	5,155	6,126	7,790	6,171	6,352
Less than 3 years old	1,799	2,471	3,248	3,096	3,439
Proportion (%)	**34.9**	**40.3**	**42.2**	**50.2**	**54.1**

Source: Small and Medium Business Administration, 2012

So, as of July 2012, ventures that were younger than one year old was 4.7%, while the proportion of ventures that were younger than five years old was 42.3%.

Table 2-10 | Current Status of Age of Ventures (As of July 2012)

Class	Less than 6 month	6 month ~1 year	1~3 years	3~5 years	5~10 years	10 years or more	Total
Firms	406	873	5,681	4,531	7,257	8,371	27,119
Proportion (%)	1.5	3.2	20.9	16.7	26.8	30.9	100

Source: Small and Medium Business Administration, 2012

3.2. Characteristics of Venture Business

Currently, only 610 venture firms have been able to attract venture capital investments, which accounts for only a small fraction of 2.2% among 27,119 venture businesses. The number of venture firms that are considered venture due to their R&D activities and level of technologies is 1,468, and the remaining 92.1% are by government institutions for their technology and innovation oriented characteristics of the firms. Roughly speaking, all the other firms than the 610 ones have not been able to attract private venture capital due probably to their lack of marketability of products and services even if they are technological and innovative firms. So, the role of the government is to make those firms more innovative and more marketable so that they can grow with the help of government support and private funding.

Table 2-11 | Types of Venture Businesses

Class	Venture Investment	R&D	Tech appraisal guarantee	Tech appraisal loan	Pre-venture	Total
Firms	610	1,468	23,799	1,179	63	27,119
Portion (%)	2.2	5.4	87.8	4.3	0.2	100

Source: Small and Medium Business Administration, 2012

Venture businesses in the industry of manufacturing accounts for 73.4% which is the majority of venture businesses, followed by information processing and software with 14.8%, which shows that, due to its development of information technologies, Korean venture businesses are mainly manufacturing and information industry firms.

Table 2-12 | Venture Business by Industries

Class	Manufacturing	Information & S/W	R&D service	Construction & Transportation	Wholesale Retail sales	Farming Fishing Forestry Mining	Others	Total
Firms	19,903	4,007	289	384	360	72	2,104	27,119
%	73.4	14.8	1.1	1.4	1.3	0.3	7.8	100

Source: Small and Medium Business Administration, 2012

In the meantime, 92.4% of the venture businesses are owned and managed by men, while only 7.6% are operated by women. Furthermore, the amount of sales by venture businesses is less than 1 billion won for 31.8% of the ventures, while only 11.9% have more than 10 billion won of annual sales.

Table 2-13 | Sales of Venture Businesses

Class	Less than 100 million*	100 million~ 1 billion	1~10 billion	10~100 billion	100 billion or more	Total
Firms	922	6,002	12,255	2,531	65	21,775
%	4.2	27.6	56.3	11.6	0.3	100

Source: Small and Medium Business Administration, 2012

In addition, venture businesses got their sales of 42.9% from newly developed products or services, and the remaining from previously existing items, which may show dynamic research and development activities for new products or service development, according to the Venture Survey by the Association of Venture Businesses in 2011.

Chapter 3

Entrepreneurship Education Programs

1. General Overview
2. Entrepreneurship Education in Advanced Countries
3. Entrepreneurship Education in Korea

Entrepreneurship Education Programs[3]

1. General Overview

1.1. Definition and Trend

"Entrepreneurship education" is an educational program for education and support for students including teenagers, and for education of entrepreneurs (2010, Korean Research Association for the Business Education). It's an education not only on knowledge, function, and attitude relevant to startups for future entrepreneurs but also on positive attitudes for performance of one's duty in the position of an employee even when one does not start a business. Entrepreneurship education is classified into education for teenagers and education for college and graduate students, and the general public. It is called 'entrepreneurship education' in the United States and Canada, while they call it 'small business education' in Europe.

Especially, "entrepreneurship education for teenagers" is considered more important because it can lead teenagers to intended changes in psychological and behavioral aspects for new value creation and economic development on the basis of an enterprising spirit and creativity. It can include education programs for cultivation of entrepreneurship, as a pre-entrepreneur, which include knowledge on management, attitude, and values. Entrepreneurship education for teenagers incorporates various areas such as economics, law,

3. We explain in the order of ① Entrepreneurship Education Programs, ② Business Incubator Programs, and ③ Public Venture Fund Program in each chapter because it can reflect the progress of venture business creation. The government provides entrepreneurship education programs for boosting the startup spirit and for practical knowledge for the business creation process, and it provides space and business related services for early stage ventures to help them survive, and angel investments and venture capital investments for their survival and initial growth stage.

management, accounting, administration, trade, and technology. So, the major components of entrepreneurship education for teenagers are economic education, job education, and entrepreneurial spirit education.

① Education on entrepreneurial spirit: To grasp as a broad concept rather than entrepreneurship education with an approach from a change in business environment and economic growth. It's especially important for teenagers since it's the best time to educate and train young individuals who can find a task and devise and carry out a measure by oneself by teaching the 'entrepreneurial spirit' or 'entrepreneurial capability' (Korea Institute for Industrial Economics and Trade, 2008).

② Economic education: To teach teenagers social orders of acquisition and disposition of assets and services and economic activities, and also the attitude of a democratic citizen which includes effective decision processes.

③ Teenager career development education: To teach the value of labor and job to individual students on a short term based on the 'job concept,' and education to raise the will and attitude or capability necessary to form an individual career and support the development of students' careers.

There has been a shift from theoretical education to practical education in the past 10 years and a development from job education, going through saving education, consumer education, market economy education, and finance education, to entrepreneurship and startup environment education.

1.2. Purpose and Necessity

The purpose of entrepreneurship education is to provide knowledge and information relevant to startups for prospective entrepreneurs, and to increase the successful startup rate by enhancing business management ability and entrepreneurial spirit.

First of all, it is necessary because there is an increased demand for entrepreneurship education for the emergence of a success model from innovative startups after the venture boom and improve social recognition toward self-development and accomplishment through startups. It is even more necessary since there is an increase of startup opportunities due to continuous technological innovations and changes in lifestyle and the significant decrease in startup costs. It is due also to the decreased job security and increased early retirements and restructuring of corporations.

The second reason of the increased demand for entrepreneurship education is the more rapidly changing economic society. Inefficient management by traditional practices is not effective to compete with giant capital-intensive multinational corporations who are well

equipped with modern distribution and service techniques and information technologies. Under this circumstance, the growth of the technology venture industry and service industry is the key to increasing employment, and nurturing the entrepreneurial spirit and startup mind is necessary for continuous economic growth.

Therefore, the institutions and programs for entrepreneurship education have expanded quantitatively given the increased demand for entrepreneurship education, but the contents and their quality of education is not well developed yet. Entrepreneurship education in schools should focus on support and guidance for startups of a more practical nature to enhance entrepreneurial spirit for high school or college students. Understanding of the socioeconomic contribution and possibility of success of SMEs, especially individual enterprises, developing a challenging spirit and creativity for realizing one's personal vision, and nurturing the basic capacity for efficient and effective use of retaining resources are necessary. In addition, for the short and medium term, it is necessary to incorporate this into the core curriculum as a non-credit program.

Advanced western economies like the US and EU are interested in entrepreneurship education as a key part of a new economic education. This is for the development of people's positive attitudes for business creation and operation from their elementary school years, to high school and college and graduate school, and the employed adults as well. They have reinforced the recognition of social successes through startups, and have been able to provide social models of successful economic players for society's sustainable development.

2. Entrepreneurship Education in Advanced Countries

Most countries classify motivation, opportunity, and skills as the three important parts for entrepreneurship education, as a result of the analysis of their education systems. Ten OECD countries, for example, implement policies to manage entrepreneurship and entrepreneurial spirit education programs in their educational systems. England, Denmark, Finland, and Norway provide National Curriculum Guidelines for training programs for professors and teachers for entrepreneurship education, and developed and used the Action Plan for professors and teachers on how to educate.

In addition, the US government views policies for entrepreneurial spirit not as a program but as a subject for competition promotion, and sets the basic form as competition promotion by relaxing regulations and enhancing the entrepreneurial spirit. So, in the US, entrepreneurial spirit education is the education of reinforcing entrepreneurial capacity for the general public rather than education for a few selected entrepreneurs. That is why they put an emphasis on entrepreneurship education in middle and high schools in addition to colleges and graduate schools.

〈US Entrepreneurship Education〉

■ Entrepreneurship education in the US has been provided in various programs as a single subject for 50 years since 1955.

• 253 colleges offered courses or programs of Small Business Management, Entrepreneurship in 1982, and the number increased to 441 in 1993. Entrepreneurship education college (graduate school) opened about 2200 courses in 1600 schools in 2006.

- Schools with entrepreneurship programs increased from 54 in 1997 to 200 in 2003, and 330 schools offer credit courses, according to Solomon research (2003) on degrees in universities (2-year, 4-year), intensive courses or certificate courses or seminars.

• There are 44 academic journals regarding entrepreneurial spirit and 275 professors with specialties in entrepreneurial education. There are 100 fund centers to support research and programs on entrepreneurial spirit and startups.

Likewise, most of the major countries have their own entrepreneurship education programs, even if their names and contents are a bit different from each other. For example, the EU and the OECD put an emphasis on the role of boosting the inspiration of the entrepreneurial mind, while Taiwan emphasizes its role to increase students' management ability and entrepreneurial spirit.

Table 3-1 | Focus of Entrepreneurship Education

Countries	Focus
EU/OECD	Inspiration of entrepreneurial mind
Netherlands	Role of job creation
Finland & Denmark	Change in the labor market through startup, reduction of youth unemployment, career development through training of entrepreneurial spirit
Australia	Increase of ability to recognize and utilize knowledge acquisition for catching real opportunity
England	Expansion of possibility of growth into future entrepreneur
Taiwan	Increase of students' management ability and mind

Source: Small and Medium Business Administration, 2012

Furthermore, the entrepreneurship education system should be planned to help students grow into entrepreneurs, besides the basic role to help understand social and economic phenomenon. First of all, entrepreneurship education system should be a structurally connected series of programs among elementary schools, middle schools, high schools, and colleges. So, the support and recommendation of curriculum development by the government for connectivity of entrepreneurship education among them is important, which is why the United States provides guidance with teaching materials by dividing entrepreneurship education into five steps. Most other countries are developing curriculum of step-based entrepreneurial education for their educational systems, where, for example, several EU countries such as Austria, Belgium, Denmark, Norway, and Sweden emphasize entrepreneurship education in elementary schools.

For countries to be more effectively able to implement entrepreneurship education, some countries, such as Austria, Turkey, and New Zealand according to the 2006 OECD survey, made it compulsory education courses in elementary and middle schools, while France, Poland and Sweden have mandatory subjects relevant to entrepreneurial spirit and startup courses in middle and high schools.[4]

3. Entrepreneurship Education in Korea

3.1. Purpose and Structure

The policy purpose of Korean entrepreneurship education is the following:

First, it's for the security of business competitiveness for global competition by systematically teaching the working knowledge necessary for startups and entrepreneurial spirit for pre-entrepreneurs or entrepreneurs with superior technology and original ideas, to revitalize technological and innovative startups in nationally strategic industries to create jobs and promote active growth.

Second, it is to nurture prepared pre-entrepreneurs in colleges or graduate schools through early education of the entrepreneurial spirit and ability to commercialize, and enhance self-employment abilities.

Third, it's for the reinforcement of startup capacity of future entrepreneurs through educating teenagers in middle and high schools on forming business minds and cultivating an entrepreneurial spirit.

4. For details of the entrepreneurship education, please refer to "Appendix 1: The Entrepreneurship Education Programs of Major Countries".

Public entrepreneurship education system, led by the government, was developed with specific purposes, ranging from the youth BizCool program in 2002, support programs for graduate schools of entrepreneurship in 2004, startup education for college students in 2005, and the Technology Startup Academy. Basically, there are four entrepreneurship education programs for teenagers, college students, and adults, established through the Small and Medium Enterprise Establishment Act.

① BizCool Program: Startup and management education programs for elementary, middle and high school students to educate them on the entrepreneurial spirit and the ability to commercialize their ideas, and to prevent youth unemployment by enhancing self-employment ability.

② College Entrepreneurship Education: Spread a startup environment and enhance understanding of startups by educating potential entrepreneurs on startup capacity, such as forming business minds and entrepreneurial spirit for college students. University entrepreneurship education courses focus on support for opening and managing entrepreneurship courses in the regular curriculum with credits, while university startup clubs promote developing marketable startup items, business plan competitions, and study abroad opportunities to support internationally cooperative activities.

③ Graduate School of Entrepreneurship: Securing business competitiveness for global competition with entrepreneurship education for graduate students by systematically spreading knowledge for startup and entrepreneurial spirit to potential entrepreneurs or entrepreneurs with advanced technology and original ideas. The program reinforces responsibility and expertise by supplementing entrepreneurship courses, through which graduate school students can verify the marketability of their technologies and ideas.

④ Technology Startup Academy: The academy is for adults with job experience who may want to start their own venture business, usually, in the field of their previous work. It is likely that they don't have startup and management knowledge, the government provides the academic program through universities and public institutions. It includes a two-part program: ⓐ the first step is enhance startup and management knowledge and capacity for the creation and the early stage of operation of the new firm, and ⓑ the second step is to increase the new firm's viability through management consulting services, such as accounting, legal, financial, and mentoring services.

3.2. Entrepreneurship Education Programs

3.2.1. Programs for Teenagers

Entrepreneurship education for teenagers is not reflected in the curriculum for most schools except some high schools currently, but is partially included as an elective course "Technology & Family" in general high schools or as an elective course in the core curriculum for commercial high schools. In fact, entrepreneurship education for middle and high schools has been offered through the BizCool program, supported by the government agency, SMBA.

a. Government's Program : BizCool

The BizCool program is the only domestic government-supported economics and entrepreneurship education program for teenagers to nurture future global CEOs by educating economy and entrepreneurship to teenagers. This program has been managed during the regular curriculum, after-school hours, vacation or Saturdays, which focuses on business in general to nurture entrepreneurship and a business mind (entrepreneurial spirit) for teenagers by combining theories, work and experiences.

The main components of the BizCool Program are ⓐ theoretical lectures for at least 34 hours, ⓑ startup club activities, ⓒ startup events, ⓓ special lectures by field experts, and ⓔ startup practices. In addition to those regular individual school programs, there are Business Plan Competition, Startup Case Competition, Startup Golden Bell, and BizCool Summer Camp, combining all participating schools and students annually. In 2012, the government funded five billion won to 12 elementary schools, 8 middle schools, and 104 high schools that were chosen by a competition with their startup education courses, startup events, and previous performance of in-school startups.

Table 3-2 | Contents of BizCool Program

Class	Subjects	Specific contents
Curriculum	enrolled students	At least 34 hours of BizCool in curriculum
Support for startup club	startup club within school	Field trip to exemplary businesses, support for startup item development, security of intellectual property, and special lecture
Startup events within school	enrolled students	Events to nurture startup mind such as Startup Golden Bell and startup camps within school

Class	Subjects	Specific contents
Special lecture by experts outside	enrolled students	Special lectures by outside experts to nurture entrepreneurial spirit, write business plan, and introduce cases of successful startups
Supply of textbooks	enrolled students	Distribution of BizCool textbooks and reinforcement of basic startup knowledge through relevant institution

Source: Small and Medium Business Administration, 2012

Some local governments have also sponsored entrepreneurship programs especially for teenagers. For example, Seoul City sponsors "Hi Seoul Entrepreneurship School", which provides not only education but also startup consulting for youths, funds, and guidance for startup business management. Seoul City also supports the Startup Assistance Program to lead revitalization of startups by students in special high schools and reinforce the capacity of vocational education of teachers.

For ten years from 2002, the government has selected and supported 903 schools for entrepreneurship education with the BizCool program, and it has 453 students educated, and 1,825 teachers trained for entrepreneurship theories and practices. Through the program, 23 and 26 student startups have successfully launched in 2010 and 2011, respectively.

Table 3-3 | Support for BizCool Program

Class	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
Budget support*	-	-	10	10	12.5	13.7	15.7	25	22.4	43.8	153.1
Schools	16	50	80	100	83	94	96	135	149	100	903
Students	3,000	1,000	23,000	26,000	32,000	52,000	61,000	85,000	94,000	76,000	453,000
Teachers trained	-	-	340	210	182	150	150	323	304	166	1,825

Source: Small and Medium Business Administration, 2012 (In hundred million won)

b. Private-led Entrepreneurship Education

Currently, there are 12 private institutions that run entrepreneurship education for teenagers. They are providing ⓐ field experiences and camps to increase the understanding of business and startups, ⓑ teacher training programs for the effectiveness of teachers' education, and ⓒ teaching materials for entrepreneurship education, such as video clips and case analysis for young people who are interested in startups.

Table 3-4 | Private Programs for Teenager Entrepreneurship Education

No	Title	Homepage address	Type	Date established	Main subjects
1	Maekyung children economy class	www.connie.co.kr	Nonprofit	Jan 2001	children
2	Ivitt Lab	www.ivitt.com	Profit	Sept 2001	children, teenager
3	Children economy daily	www.econoi.co.kr	Profit	Sept 2001	children, teenager
4	Ecovi	www.ecovi.co.kr	Profit	Mar 2000	children
5	FKI market economy	social.fki.or.kr	Nonprofit	May 2004	children, teenager, youth
6	Teenager economy school	www.wow-eco.com	Nonprofit	July 2004	children, teenager
7	Financial Quotient Council	www.fq.or.kr	Nonprofit	Apr 2003	children, teenager
8	Teenteen economy (Chungang-ilbo)	teenteen.joins.com	Nonprofit	Jan 2003	children, teenager
9	Hi economy (KORCHAM)	hi.korcham.net	Nonprofit	Sept 2003	children, teenager
10	Korea Economic Education Research Institute	www.keeri.co.kr	Profit	Feb 2002	children
11	NFTE KOREA	www.nftekorea.com	Nonprofit	May 2004	children, teenager, youth
12	JA KOREA	www.jakorea.co.kr	Nonprofit	Oct 2002	children, teenager

Source: Small and Medium Business Administration, 2012

3.2.2. Programs for College and Graduate Students

College and graduate students are the main target for the public entrepreneurship programs, through which governments try to enhance the willingness and intension of students to be entrepreneurs in the future or in the school, using their innovative ideas and technologies.

Government sponsors universities who offer startup or entrepreneurship courses, where multi-industry converging courses, team startup courses, and field-experience courses are preferred. The main courses offered are Theories on SME, Venture Management, Venture Startup, and Startup Management. In addition, more practical courses, such as Financing, Marketing, Growth Strategy, and Startup Internship, are also provided. Fifteen thousand students were educated through 241 entrepreneurship courses in universities in 2011.

Another main program for college entrepreneurship programs is the Startup Club Assistance. The program supports business plan establishments, startup consulting, and the costs for prototype production for startups. In 2011, 540 startup clubs were supported, and 149 student startups have launched successfully.

Table 3-5 | Startup Courses and Clubs Assisted

Year	'06	'07	'08	'09	'10	'11
Startup Courses	51	26	50	94	115	241
Students	3,585	2,765	2,532	6,237	7,543	15,069
Startup Clubs	50	55	60	119	297	540

Source: Small and Medium Business Administration, 2012

Furthermore, the government has selected and supported the Graduate School of Entrepreneurship to nurture entrepreneurship, along with enhancing the startup spirit and the willingness to start businesses for graduate school students. It selected five schools in 2004 and has supported about 50% of the tuition of 30 students per school. Teaching hours for a year are 600 hours, 65% of which consists of practical courses.

Table 3-6 | Performances of Graduate School of Entrepreneurship

Class	2004	2005	2006	2007	2008	2009	2010	2011	Total
Application for intellectual property	0	4	2	12	26	29	34	40	147
Graduation thesis	0	46	37	58	42	71	90	54	398

Source: Small and Medium Business Administration, 2012

Through the program, there have been 552 graduates and 167 students with certificates out of 1069 enrolled students over eight years since 2004. So far, 335 students or graduates have launched their businesses, and they have filed 147 intellectual property rights and 398 startup publications of graduation theses.

3.2.2. Programs for Adults

The government has supported the Technology Startup Academy program since 2005, which focuses on adults who have experience working in industries and want to create their own business with their ideas and technologies. The program provides systematic support for "entrepreneurship education + fund + space + management and technology consulting". The program has selected 129 institutions so far by evaluating their entrepreneurial education and support infrastructure for business starters. The program includes three steps of education: theoretical courses (20 hours), business model development (20 hours), and consulting and executing startup (40 hours). It focuses on industries that are sources of new growth engines, such as information technologies, cultural industry, and high tech manufacturing industries, by providing 55 million won per institution per year.

Table 3-7 | Curriculum of Adult Entrepreneurship Program

Year	Hours	Course		Contents
2009	60	• Study on startup (30 hours) • Mock startup (30 hours) • Other additional education		• Startup plan establishment, startup support plan, marketing strategy, patent registration • Commerciality analysis, marketability, technology, finance analysis • Mentor and workshop among educated
2010	70	• Study on startup (20 hours) • Startup commercialization (30 hours) • Mock startup process (20 hours)		• Basic knowledge and education of startup • Lecture by successful CEO and specialization education • Startup simulation and mentor
2011	100	Basic course (80)	• Tech startup (30) • Study on tech startup (30) • Mock startup (20)	• Technology startup item selection process, patent application process • Tech startup preparation procedure, financing strategy • Tech startup simulation, target customer selection • YES leaders lecture, successful startup case (4 or more) • Business item and result presentation, networking
		Combined course (20)	• Lectures on entrepreneurial spirit (10) • Workshop (10)	

Source: Small and Medium Business Administration, 2012

For seven years after its inception in 2005, the program has educated 4,808 adults, 82% of whom has successfully graduated. Among them, 1,662 graduates have launched their businesses, including 307 startups in 2011.

Table 3-8 | Yearly Performance

Class	2005	2006	2007	2008	2009	2010	2011	Total
Institutions	11	11	12	15	27	26	27	129
Participation/ Completion	384/ 297	326/ 266	357/ 256	449/ 368	1,195/ 991	1,009/ 887	1,061/ 872	4,808/ 3,937
Startups	156	100	169	174	418	338	307	1,662

Source: Small and Medium Business Administration, 2012

Chapter 4

Business Incubator Programs

1. General Overview
2. Business Incubating Policies in the USA
3. Business Incubating System in Korea

Business Incubator Programs

1. General Overview

The purpose of business incubating programs is to increase the success rate of startups by supporting entrepreneurs with technologies and business values, and develop their ability to commercialize. The incubators provide support in management skills, technological support, manufacturing facilities, and business mentoring. Business incubating systems, first adopted in the US in the 1950s, were created to increase employment and to contribute to regional economic development by providing seed-beds for potential entrepreneurs. Since the 1970s, business incubation systems have increased not only regional but also national economic competitiveness by promoting startups of innovative or new technology-based businesses.

The basic concept of the business incubator is to 'incubate' starting businesses, which means 'to hatch' and define facilities that maintain appropriate and controlled conditions for the successful development of new businesses as germinating organizations. Incubators provide facilities such as individual or public workplaces at low cost to entrepreneurs in their early stages with technologies and commercialization capability, and to those who are having difficulty with funding and securing workplaces and facilities. Incubators also promote startups and increase the success rate by reducing the risk and burden of startups in the early stage, and inducing smooth growth by helping with their management, taxes, and technological guidance.

J. A. Schumpeter, an American economist, asserted the creation of added value with creative destruction, through innovations like development of new technologies and products, it spawns pioneers of new markets and distribution channels, new suppliers, and new process developments. These innovative activities intensify market competition, but creative, challenging, and adventurous entrepreneurs discover startup opportunities

through intensified competition. So, by creating a positive social atmosphere for startups and the right infrastructure you can boost startups with professors, researchers, employees of large businesses, and college students. Therefore, the role of business incubating centers, which support business starters with business spaces, networks, management ability, and administrative service, is very effective because business planning entrepreneurs and early stage startups lack startup knowhow and funds.

Management types of business incubators vary according to the managing institutions, and expected results are different according to the purpose of the establishment. Generally speaking, a business startup environment consists of entrepreneur suppliers, competition setups, and industrial circumstances for startups.

The types of business incubators are classified into differences in fund distributor, geographical location, incubated business, and supporting services. Universities are the main operators of incubators in most countries, while some public institutions are also running business incubators in developing countries.

Table 4-1 | Types of Business Incubators

Class		Management strategy / Goal
Criteria	Types	
Fund source	Public and nonprofit organization center	• Established by public institutions like central/local governments • Economic diversification / regional economic revitalization are main goals • Job creation and expansion of taxation
	University and research institution center	• Established by universities and research institutions • Commercialization and transfer of research result • Increased revenue of university from commercialization • Contribution to regional community and improved image • Industrial-academic cooperation like research opportunities • Startup opportunities for graduates and affiliated
	Private center	• Established by individuals and businesses • Profit and business restructuring are main goals • Investment in new technology application and technology transfer, real estate development
	Private/ public complex center	• Co-establishment by private, university, and public institutions • Synergy expected from fusion of government fund, private expert technology, and capital

Class		Management strategy / Goal
Criteria	Types	
Geographical location	University (adjacent) center	• Use of university's human resources, technology and facilities • Suitable for nurturing cutting edge technology industry • Possible for quick commercialization of research result
	Center in city area	• Easily approachable to material assets like building, facilities • Close to market, favorable for marketing activities
	Center in rural area	• Favorable for acquiring regionally unique resource • Low fixed cost, like lease of resident space
Incubated firms	Specialized center	• Residence, support for certain industries • Specialized service (Post-BI) according to growth phase of business • Necessity to secure experts in corresponding area
	Non-specialized center	• Residence support for various industries • Necessity to secure expert manager with general managing ability
Management guidance	Independent center	• Policy devoted to establishment purpose • Specialization of supporting service and specialized management possible
	Dependent center	• Reflection of policy by supporting institutions • Reflection of public benefit with exclusion of center's benefit

Source: Small and Medium Business Administration, 2012

Business incubators support facilities/equipments, management, technology, finance, law, and networking services for the stable launch and growth of startups in their early stages. Business incubators perform different business incubating functions according to the establishment purpose, such as job creation, downtown re-development, and technology transfer from new firms within the universities. Business incubators also provide various support services according to the types of incumbent businesses and organizational structures of the center. Expected effects according to the founder/operator of the center are as follows.

Table 4-2 | Expected Effects of Business Incubators

Founder/Operator	Effects
University /research institute	Fund for university / research institute development
	Reinforcement in cooperative project between industrial, academic, research sectors
	Expanded opportunity for employment of graduates / researchers
	Spin-off by research labor force
Business	Growth of technology-intensive SMEs
	Expansion of investment opportunities in cutting edge industries
	Reinforced cooperation among businesses, increased profit
	Efficient promotion of R&D
Regional authority	Increased employment in new industries
	Increase in tax revenue
	Promoted structural reform in regional industries (growth of regional business)

Source: Small and Medium Business Administration, 2012

2. Business Incubating Policies in the USA[5]

The United States is an advanced country for startup policies with positive social recognition of startups and a private-led startup culture with a long history of active business startups. Total Entrepreneurial Activities (TEA) of the US in 2011 is 12.3%, higher than 6.9% for advanced countries, its startup rate is 15% and its shutdown rate is 12% since 1990 according to Global Entrepreneurship Monitor (GEM). The establishment of the virtuous cycle in the startup ecosystem was due to the formation of the Silicon Valley venture startup cluster from rapid development of the information technology industry and active support policies by the government.

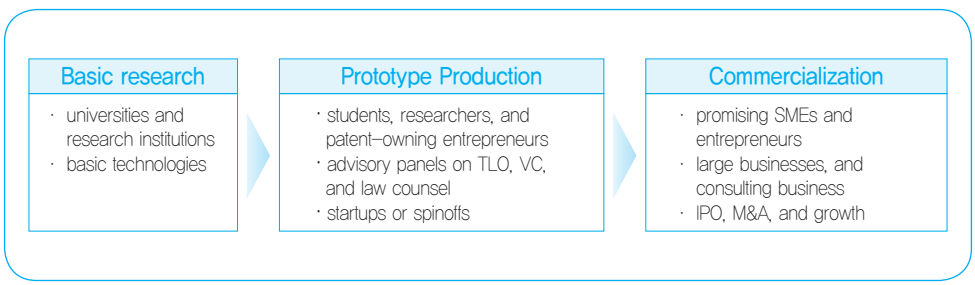
The revitalization of the venture capital market and the active investment by small business investment companies (SBICs) is the key element to the formation of a small business friendly ecosystem. The first venture capital firm is the American Research and Development (ARD) that was established in 1946, and full-scale growth started with the adoption of the fund support system by SBIC in 1958.

5. The examples of other countries, such as Israel, the UK, and Finland, are summarized in the "Annex 2. Incubating Programs of the Main Countries".

Recently, the Obama administration, aiming to cultivate a startup nation, provided various policies to support startups since economic growth and job creation effects by SME startups have been verified by the 'Start-up America Initiative', a key policy to support startups implemented in Jan 2011. Startup policy enforcement promotes private and market-led participation with public and private institutions such as the federal government, Kauffman Foundation, and Google. Institutional investment has significantly grown so that they can expand startup investment into their early stages, which enables new startups to secure startup funds for their successful launch.

One of the most distinctive features of the US business incubating system is the active participation of private sectors in all processes of searching, incubating, and nurturing promising venture businesses. The functions of Technology Licensing Office (TLO) in universities and research institutions are helpful for new startups to get profitable business items and technologies. In addition, entrepreneurial culture and a business friendly system help entrepreneurs to commercialize their ideas and technologies.

Figure 4-1 | Characteristics of US Business Incubation



Source: Small and Medium Business Administration, 2012

The well-functioning technology trade markets for technology commercialization, and the promotion of business startups through the cooperative systems, are where the public and private institutions have active roles on the basis of the legal outline enacted by the federal government. Transfer of technologies from universities and research institutions to private sectors was encouraged by the Bayh-Dole Act which can revert research performance to corresponding universities (1980), SBIC establishment (1958), and Small Business Innovation Research (SBIR, 1982).

The federal agency, Small Business Administration, coordinates the startup assistance system consisting of private investors, universities, and public institutions including federal and state governments, through legal frameworks, public funding, and public-private partnerships and federal-state partnerships. Universities aim for stable management and

social contributions of early stage startups through spinoffs and development of technologies, while private sectors increase the success rate through funding and management guidance from the early to growth stages.

Recently, the US government promoted strong startup policies to build 'Startup America' by enacting a startup support innovation agenda and providing its legal basis. The enactment was to support funding for startup businesses since banks are reluctant to provide loans to SMEs and startup businesses after the financial crisis. It is a practical program to lead initiatives by private sectors, and a model, at the same time, in which business and entrepreneurs coexist.

〈Summary of 'Startup America'〉

- **21st century new industry nurture strategy (clean energy, medical, cutting edge manufacturing, and IT) through entrepreneurial spirit enhancement, startup revitalization, and job creation for sustainable growth and quality job creation in 2009.**
- The government promotes the expansion of funds available to entrepreneurs, reinforced links between mentors and entrepreneurs, and government support for entrepreneurs and for the acceleration of innovation.
- Private sector promotes creation of entrepreneur ecosystem, support for next generation of entrepreneurs, link between mentors and entrepreneurs, and acceleration of innovation.
- More than 20 businesses such as Intel, **IBM, HP, and Facebook announced their support of more than 730 million dollar for innovative startups.**

Business	Support
IBM	150 million dollar fund for venture startup
HP	400 million dollar to venture education program
Google	100 million dollars for young entrepreneurs
American Express	125 million dollars distribution so that SMEs can buy products cheaply
Cisco	Promise to provide company's education to 6000 entrepreneurs
Facebook	Technological education to 500 entrepreneurs

One of the successful frameworks for the startup assistance system is the Accelerator Program. It was initiated by successful technology entrepreneurs including angel investors in 2005, as a one-stop support system of searching for promising entrepreneurs, fund support, entrepreneurship education, information provision, and network building. It is mainly focused on providing various entrepreneurship education and mentoring services for 3~6 months, and on providing investment funds in return for acquisition of shares. It can have an extremely positive effect on entrepreneurs by providing a strong network and helping entrepreneurs learn about startup-related work quickly in a short period of time. The Accelerator Program rapidly spread in the US and Europe. It has the following characteristics:

ⓐ Open to everyone but very competitive procedure for support

ⓑ Provision of pre-seed investment

ⓒ Concentrated support on small teams rather than individual entrepreneurs

ⓓ Time-limited support consisting of systematic programs and high-quality mentoring

ⓔ Group support of startup 'class' rather than individual support

Y-combinator, a specific type of this program and the world's most famous startup incubating program, started in Silicon Valley, initiated by Paul Graham who sold his company to Yahoo in 2005. Businesses are selected by the Y-combinator to receive investment of $11,000 + $3000 times number of founders (max of 3, for example $20,000 for 4 founders and $17,000 for 2 founders), and the Y-combinator owns 2~10% of stock (usually 6 or 7%).

3. Business Incubating System of Korea

Business incubating system in Korea was introduced in December 1990 at the Tenth Startup Support Council on 「Business Incubator Establishment and Management Plan」, and was provided a legal basis by 「Regulations on Establishment of Business Incubator and Management」. The technology business incubating project at KITECH, in 1991, now known as the Technology Business Incubator, which is an out-of-wall type incubator, was the original concept for business incubators in Korea. A more active starting point of business incubators was in December 1993 when SMBA designated the Ansan business incubator (operator: Small Business Corporation) as a public business incubator, while business incubators in venture and technology-intensive industries rapidly grew in quantity in 15 years after the Technology Business Incubator of Korea Advanced Institute of Science and Technology (KAIST) started in 1994.

「Measures to Enhance Efficiency of Business Incubating Projects」 was decided at the Economic Coordination Meeting in July 2005, which included the adoption and management of competition and an exit system among business incubators, ways to increase startup success rate through the restructuring of management and support system, and the increase in self-support by the operating institution.

The central government agency in charge of business incubating system is the SMBA, with administrative support from the Korea Institute of Startup Entrepreneurship Development (KISED). The supporting and operating institutions are universities, public institutions, and local governments. There were 280 business incubators as of December 2011, among which 214 are university business incubators (76.4%). The development history of business incubation system in Korea is shown in the below table.

Table 4-3 | Development of Business Incubation System

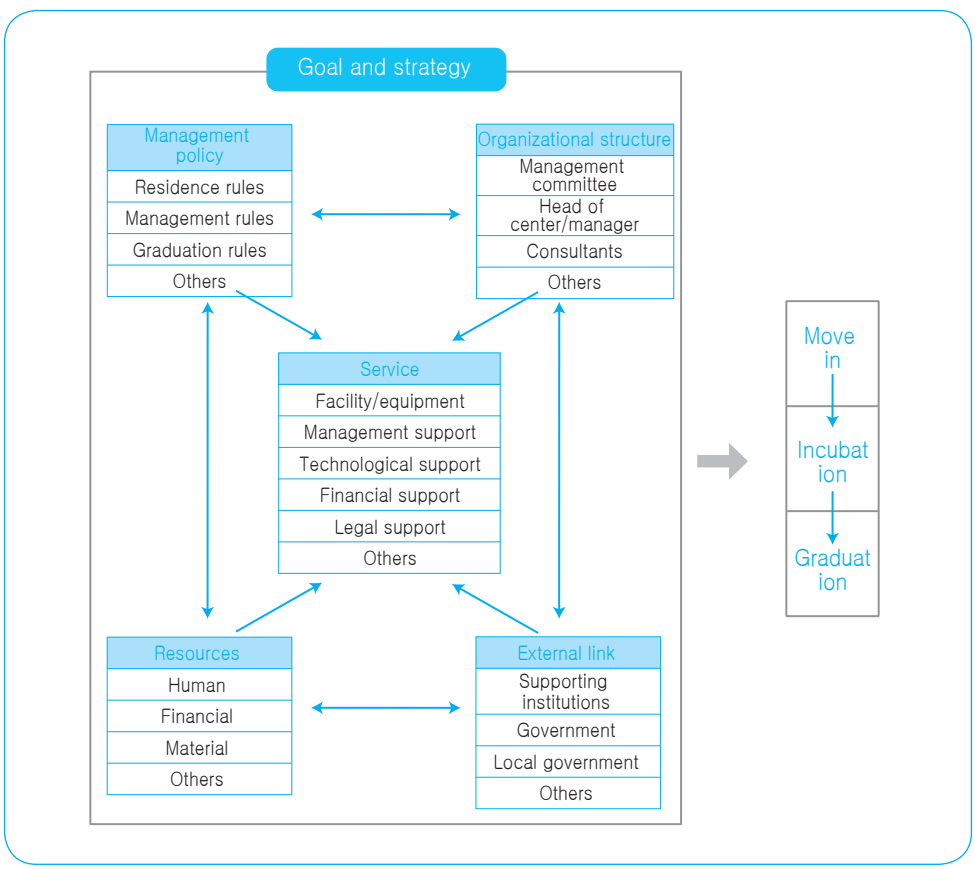
Year	Details of Business Incubation Project
1991	Ministry of Commerce, Industry and Energy technology business incubator (KITECH out-of-wall business support type)
1993	Establishment of Yeongdong business incubator by Jungbu Industrial Consulting (first private business incubator)
1994	Business incubating project by Ministry of Commerce, Industry and Energy SBC, and Ministry of Science and Technology
1996	Business incubating project by the Ministry of Information and Communication and local governments (Seoul, Chungnam)
1998	Project expansion by SMBA
2000	Establishment of cultural industry support center by the Ministry of Culture and Tourism
2001	Establishment of environmental new technology business incubator by the Ministry of Environment
2003	Establishment of defense venture center by the Ministry of Defense
2005	365 business incubators managed (7 central departments, 9 business incubating projects)
July 2005	Decision on measure to increase efficiency of business incubation project – Economic Coordination Meeting
August 2011	Measure to revitalize business incubator to create technology-intensive jobs
Dec 2011	280 SMBA-designated business incubators managed * 214 universities, 7 SBC, 25 research institutions, 12 local governments, 22 others

Source: Small and Medium Business Administration, 2012

Support for business incubating projects include ① technology and product competitiveness, ② marketing and export competitiveness, ③ management and manpower competitiveness, ④ global competitiveness, ⑤ infrastructure for reinforcing competitiveness based on 「Support for Small and Medium Enterprise Establishment Act」 and 「Act on Special Measures for the Promotion of Venture Businesses」. More detailed regulations concerning the designation, management, and support for business incubators are specified by 「Business incubator management guideline」 issued by the Small and Medium Business Administration.

The main factors for the business incubating system are how to select entrepreneurs, how to incubate and grow incumbents, and how to graduate and continue to connect with startups. The desirable setup of the Korean incubating system includes five factors: management policies, organizational structure, resources, supporting service, and external links between incubators and outside expertise.

Figure 4-2 | Korean Business Incubation System



Source: Small and Medium Business Administration, 2012

KISED, among other programs, supports various education opportunities and funding for reinforcement of business incubator managers' capacity. The education system is composed of general, specialized, and in-depth programs, and other curriculums to reinforce specialized expertise. Opportunities to acquire various knowledge and skills necessary to improve task performances are also provided through the business incubating manager qualification programs. The overview of capacity education programs for managers is as follows.

Table 4-4 | Overview of Capacity Education Program for Managers

Criteria	Period		Contents
General education	April-May	Collective education for two days	Network building and management, role of manager, resident business administration, and administrative management
Specialized education	May-October	Collective education for five days	Consulting methodology, management strategy establishment and drafting business plans, accounting · tax administration – Link with qualifying exam
In-depth education	November	Collective education for three days	In-depth learning process of specialized education such as tech commercialization and marketing work
Other professional education	Year-round	-	Specialized and certificate curriculum (Enterprise Value Evaluator, Certified Management Consultant)

Source: home page of the Korean Institute of Startup and Entrepreneurship Development (http://www.kised.or.kr/new/sub/02_edu_7.asp?menu=2&sub=1)

The government supports the establishment and management of business incubators, utilization of expertise from universities and research institutions, and provides business spaces. The Korean government funded 378.3 billion won (276.4 billion won for construction and 84.2 billion won for management of business incubators) until 2011. The amount of budget for supporting business incubators increased from 6.3 billion won to 38 billion won in 2011, and the number of designated incubators increased from 30 in 1998 to 280 in 2011. In 2011, the government supported 23.2 billion won for construction of new or expanded incubators, and 10.2 billion won for the operation of incubators, and 4.6 billion won for the programs for competitiveness enhancement projects for incumbents of business incubators.

Table 4-5 | Yearly Budget and Number of BIs Supported

Year	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11
Budget supported*	63	494	468	255	270	207	284	163	183	168	189	306	353	380
Business incubator	30	142	240	279	293	292	293	275	265	269	281	279	286	280

Source: Small and Medium Business Administration, 2012 (Budget in hundred million won)

Business incubators have built a major business infrastructure and have been a representative startup support policy for early stage startups and serve a key role in the revitalization of a regional economy. As of 2011, 4,764 startup businesses were in business incubators, creating sales of two trillion won and 18 thousand new jobs, and securing a base for a business ecosystem.

Table 4-6 | Performances of Business Incubators

Year	2009	2010		2011	
			fluctuation (%)		fluctuation (%)
Businesses Incubated	4,770	4,818	5.3	4,764	-1.1
Sales (in hundred million)	25,382	24,807	9.4	20,055	-19.2
New Jobs Created	22,017	21,113	-4.2	18,078	-14.4

Source: Small and Medium Business Administration, 2012

Chapter 5

Public Venture Fund Program

1. Purpose of the Fund
2. Benchmark of the Public Venture Funds
3. Korean Public Venture Fund
4. Performances of the Korean Public Venture Fund

Public Venture Fund Program

1. Purpose of the Fund

Venture businesses, by pursuing creative ideas and technological innovations, enhance technological development of the national economy, sophisticate industrial structure, and improve productivity of related industries. Venture businesses also affect the national economy in several other ways, such as enhancing effects on employment of workers by creating new markets, emerging new capitalists, and invigorating local economies by establishing many SMEs in local areas.

For an economy to be able to have more innovative ventures, it has to have a financial system so that startups for venture businesses can access credit for start-ups and growth, in addition to manpower, facilities, and technological development. But it is difficult and also not appropriate for start-ups at the early stage to get loans or guarantees due to the burden of providing collateral and repayment of the principal and interest. However, venture capital funds' investment in firms based on an evaluation of their technologies and ideas is suitable for funding young firms at the early stage of the start-ups. However, since technologies or products at the early stage are not proved to be profitable, it is very difficult for venture businesses to attract investments.

Therefore, it is necessary to provide financial contribution from a public venture fund and invest in venture businesses through the continuous creation of venture funds, since the creation of private venture funds is difficult due to the high risk in a loss of the principal and the difficulty of verifying future performance of fund management firms. So, it is effective for the venture capital industry to have a public-private partnership so that the private sector can avoid a significant portion of the risk from private-sector only investments in venture businesses. The public venture fund can lower the investment risk by co-investment or its investments

into private venture funds, which is called a "fund of funds". By investing into private venture funds, venture capital companies can draw a lot of investments from institutional investors, such as commercial banks, pension funds and other financial institutions, and individual investors, so that more and more early stage venture businesses can get investments.

2. Benchmark of the Public Venture Funds

2.1. Yozma Fund in Israel

2.1.1. Background and Purpose of Establishment

The Yozma Fund was established in January 1993 based on 'The Law for the Encouragement of Capital Investment' as one of Technology Venture Capital Funds, which invests in technology-intensive enterprises in the early stage of start-ups, when market failure can occur. The Israel government invested 256 million dollars to create the Yozma (means "initiative") Fund to raise and nurture the venture capital industry and invigorate investments in early stage start-ups. The fund was a "fund of funds" because it invested private venture funds which invested in venture businesses. The fund became privatized in 1997.

2.1.2. Targets and Methods of Investments

The fund targeted its investments on firms in communications, information and technologies, medical technology industries with core technologies, enterprises with various product compositions, and firms focused on exports. It focused on Israeli enterprises and foreign enterprises related to Israel. It emphasized investments in start-ups in their early stages to promote growth in export-driven high-tech industries. The size of individual investments which were able to get the investments of the public fund was 1~6 million dollars.

2.1.3. Management Consulting Services

In addition to the investments made by the drop-down funds, the fund introduced strategic partners according to the invested enterprise's business strategies, provided services of industry analysts and strategic investors networks, and attracted key executives and support for establishing offices overseas for invested enterprises.

2.1.4. Main Investment Performance

The first Yozma fund organized ten drop-down funds (over 20 million dollars per fund) in four years after its establishment, and each fund invested in about 15 firms. Currently it is privatized and has been managed privately since the Yozma Fund II.

2.2. TIF in Singapore

2.2.1. Background and Establishment

The government of Singapore established a fund of funds in 1999 with the size of 1 billion dollars as a part of policies to support new growth engine industries. Its name is Technopreneurship Investment Fund (TIF). It has been managed by TIF Venture Pte Ltd, an affiliated organization of the Economic Development Board Singapore, which was established in 1991 for the purpose of equity investments.

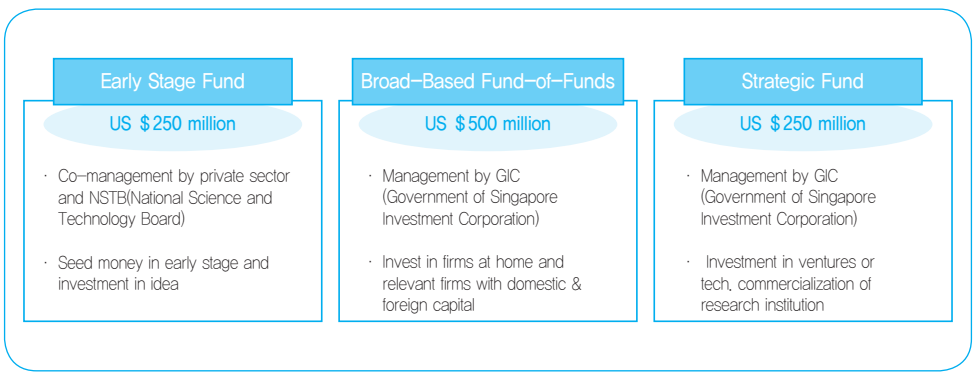
2.2.2. Purpose of the Fund and Investment Methods

The fund's purpose is to nurture high-tech industries with growth potentials through technology-centered private equity investments and stable financing to technology-intensive, high-growth firms. It has tried to achieve a high rate of profit by investing in domestic and foreign venture capital funds with good performances, in the form of joint investments in private companies for up to 20% of total investments, while it invests up to 10% of total investments in venture capital funds with great potential, located in Singapore.

2.2.3. TIF Structure

The fund diversified the time and type of investments by classifying into the Early Stage Fund, Broad-Based Fund of Funds, and Strategic Fund, each of which invested seed money and growth capital with the co-management of public and private investment corporations.

Figure 5-1 | Singapore TIF Structure



Source: Small and Medium Business Administration, 2012

2.2.4. Targets and Region of Investment

The fund targeted mainly not-yet--commercialized, new technologies with the emphasis on high value-added industries. It included investments in international firms in the United States, Europe, Israel, the Republic of Korea, Japan, India, China, Singapore, Australia, and New Zealand. Currently, the Government of Singapore Investment Corporation is in charge of the venture and private equity fund distribution after the dissolution of TIF.

2.3. EU's EIF

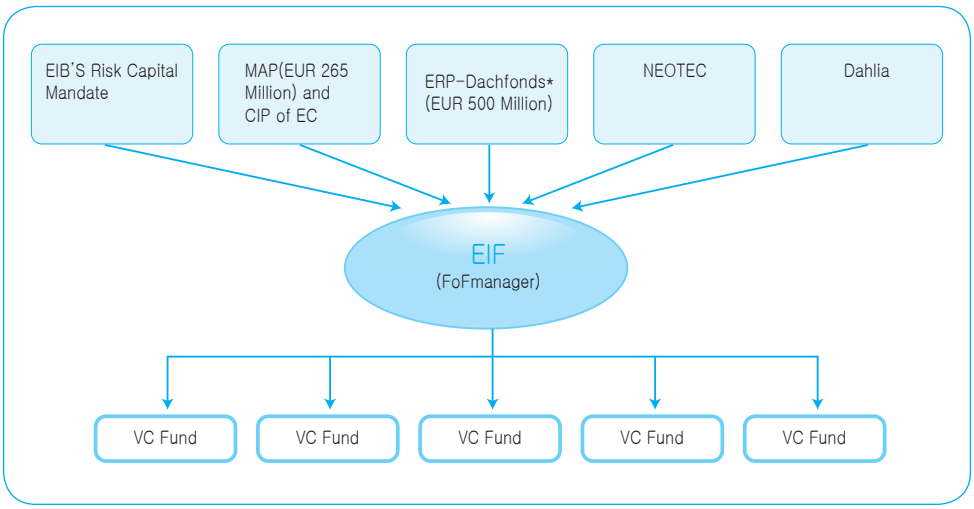
2.3.1. Background in Establishment

The European Investment Fund was established as an affiliated organization of EIB (European Investment Bank) in 1994 to integrate the European economy and to support start-ups and the development of SMEs in the EU nations through venture investments and guarantees.

2.3.2. Purpose of the Fund and Investment Methods

The fund has acted as an agent for all venture investments by EIB since 2000 and focuses on technological funds for early-to-middle stage innovative firms in the EU areas. The EIF, beside its capital, is commissioned by EC to execute finance businesses of MAP (2001~2006), CIP (Competitiveness & Innovation Framework Programme, 2007-2013). EIF businesses relevant to MAP/CIP are SME guarantees (SMEG), Start-up Scheme of the European Technology Facility (ETF-SU), and Seed Capital Action (SCA). The EIF, with the limitation of management as fund-of-funds for venture investment, supports venture businesses by contributing at least 50% in venture capital funds invested by private investors in the EU areas.

Figure 5-2 | EIF Structure

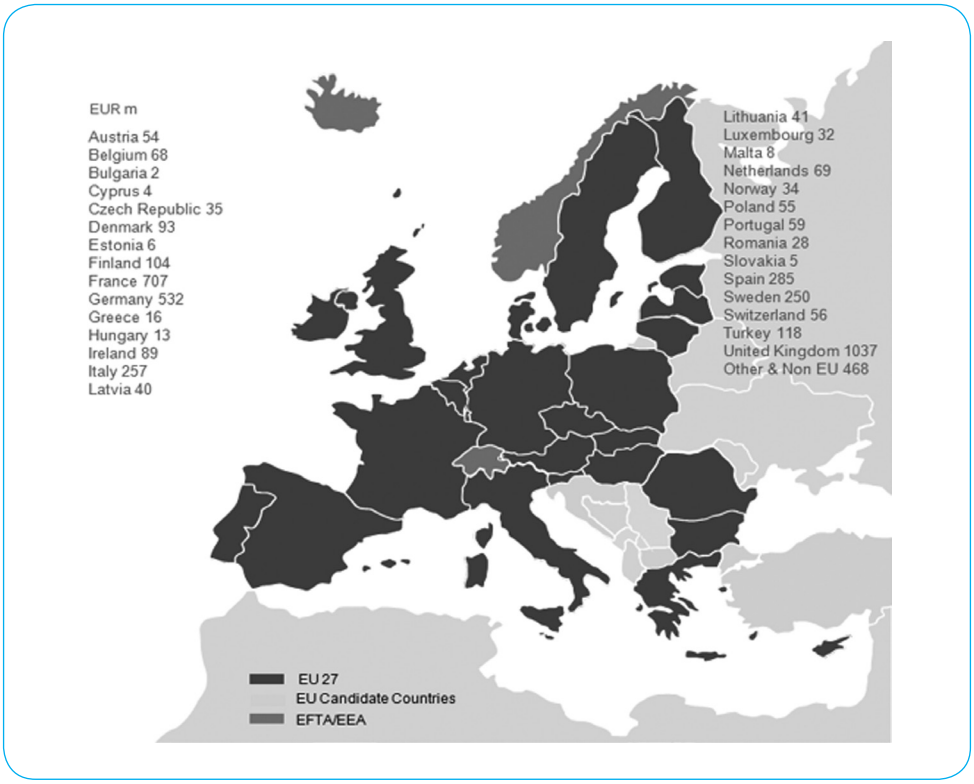


Source: Small and Medium Business Administration, 2012

2.3.3. Regions of Investments

The sum of investments in the EU Venture and Growth Capital as of September 30th, 2010 totaled 4.6 billion Euros. The United Kingdom got 1,037 million Euros, France got 707 million Euros, and Germany got 532 million Euros.

Figure 5-3 | Regional Distribution of EIF Share Investment



Source: http://www.eif.org/

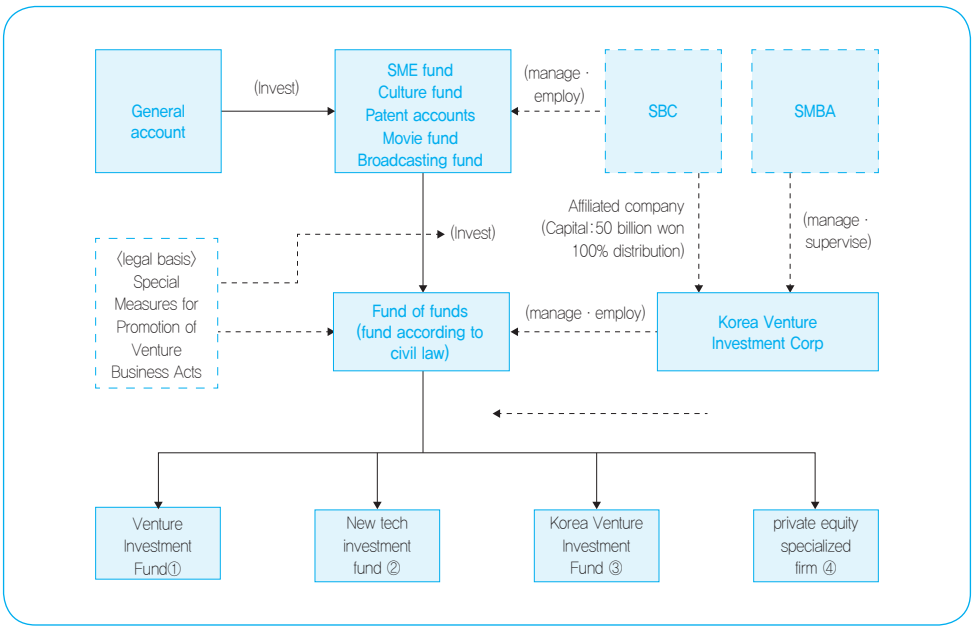
3. Korean Public Venture Fund

3.1. Creation and Structure

Korea created a public fund in 2005 for the purpose of a "fund of funds" with investments from the Small and Medium Business Administration, the Ministry of Culture, Sports, and Tourism, the Korea Intellectual Property Office, the Korean Film Council, and the Korea Communications Commission, to encourage private venture capital investments in SMEs, especially venture businesses, in the industries in which each agency is interested.

Korea Venture Investment Corporation, the agency specializing in managing the fund of funds under the supervision of SMBA, invests in start-up investment funds, new technology industry investment funds, and private equity funds. Venture capital funds which want to get investments from the public fund need to have an investment plan and funding sources.

Figure 5-4 | Structure of the Fund of Funds



Source: Small and Medium Business Administration, 2012

3.2. Fund Management

3.2.1. Establishment of Management Plan

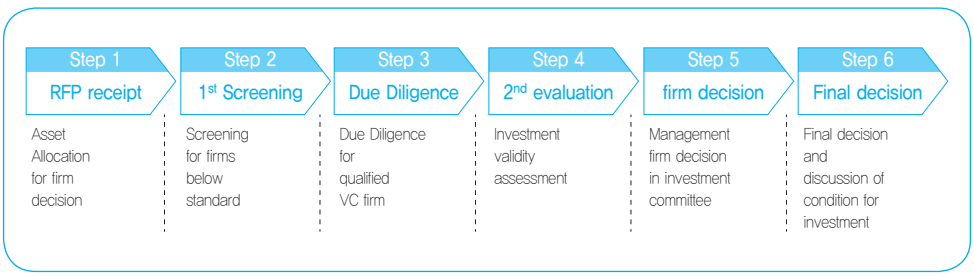
The fund of funds, established by "Special Measures for Promotion of Venture Businesses Act," (Article 4-2), is managed by the Korea Venture Investment Corp, and administered and supervised by SMBA. The Korea Venture Investment Corp decides the annual management plan and distribution areas at the fund-of-funds management coordination meeting every year, and establishes guidance for the fund-of-funds management. The fund is raised according to the management plan through scheduled distribution two to three times a year and non-scheduled distribution, and the information such as distribution areas and sizes, main investment portfolios, registration and selection schedules are posted on the Korea Venture Investment Corp homepage.

The fund of funds distributes investment sources to raise drop-down funds according to the establishment purpose of contributing institutions, and the created venture capital funds must invest more than 60% of the funds to SMEs in main investment areas for every fund type. Korea Venture Investment Corp (KVIC), as a special member of the fund, is in charge of monitoring whether the fund is being invested in accordance with the purposes of the fund.

3.2.2. Selection of Fund Management Firm

The KVIC receives on-time and rolling investment proposals and selects fund management firms through a multi-step evaluation process that incorporates evaluating the overall criteria, such as financial stability of major shareholders and investors, expertise of investment panels, and suitability of requesting fund's investment and exit strategies. The final selection of fund management firms is decided through the investment committee that consists of experts recommended by fund-of-funds contributing institutions and the director of the KVIC.

Figure 5-5 | Fund Management Firm Selection Process



Source: Small and Medium Business Administration, 2012

3.2.3. Organization of Drop-down Fund

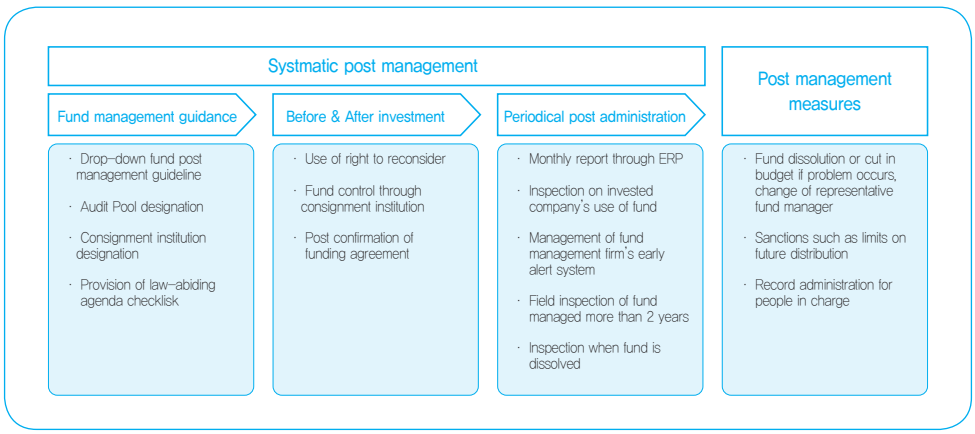
Since the fund of funds invests only up to 40% of the drop-down funds (with the exception of policy-related funds such as the ones for early stage businesses), the selected management venture capital companies need to recruit additional investors for three months and agree upon specific conditions and rules with contributing institutions based on fund of funds' standard rules.

3.2.4. Management of Drop-down Funds

The selected drop-down funds are managed by venture capital companies, and seek transparent and safe fund management in the process of executing investments through the Korea Venture Investment Corp's approval. The fund of funds monitors the investments of drop-down funds through several steps of post management processes, such as participation in investment committees and post confirmation of funding agreements. The fund of funds confirms that investments is being used as fund for growth of companies by monitoring monthly, quarterly, and semiannual status of investment companies with the self-constructed ERP system and through field inspections. The fund evaluates the legality of fund management and profitability through investigations on drop-down funds with more than two years of management and at the time of dissolution. The fund also induces stable

and transparent drop-down fund management of venture capital through restrictions such as cuts in budgets for management and a limit on future distribution for venture capitals with problems in fund management.

Figure 5-6 | Post Management Process of the Fund of Funds



Source: Small and Medium Business Administration, 2012

3.3. Sourcing the Fund

The fund gathered 14.79 trillion won from 2005 through contributions from SME promotion and industrial base funds, cultural industry promotion fund, patent special account, and broadcasting and communications development fund. It is mainly from the SME Startup and Growth Fund, accounting for 63.7%, and the Cultural Fund, 24.5%, followed by Patent Account and Broadcasting Fund.

Table 5-1 | Yearly Progress of Fund Sources

(as of late June, 2012, in hundred million won)

Class	'05	'06	'07	'08	'09	'10	'11	'12	total
SME fund	1,701	1,100	900	800	2,850	1,000	345	725	9,420
Cultural fund	-	500	1,000	-	1,200	-	520	400	3,620
Patent account	-	550	550	-	330	-	-	-	1,430
Movie fund	-	-	-	-	-	110	60	50	220
Broadcasting fund	-	-	-	-	-	100	-	-	100

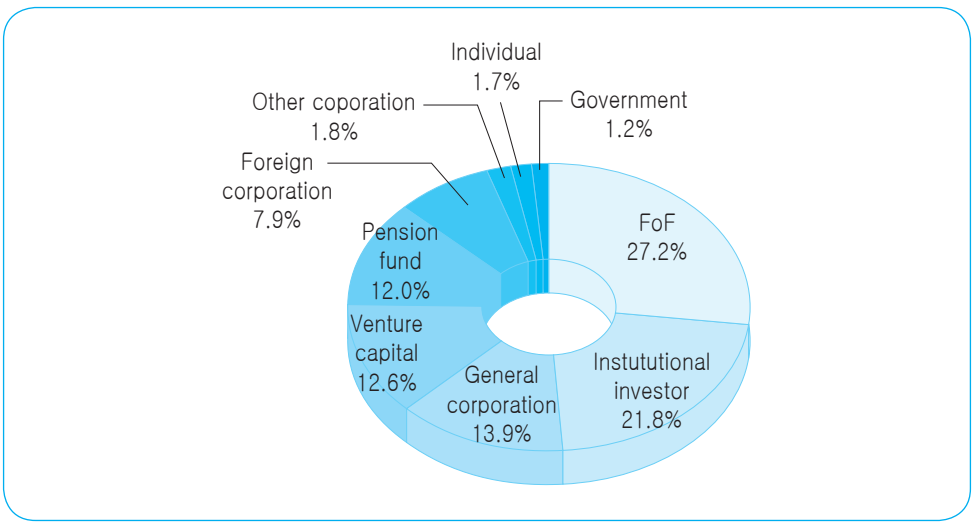
Class	'05	'06	'07	'08	'09	'10	'11	'12	total
Total	1,701	2,150	2,450	800	4,380	1,210	925	1,175	14,791
Sum	1,701	3,851	6,301	7,101	11,481	12,691	13,616	14,791	

Source: Small and Medium Business Administration, 2012

4. Performance of Korean Public Venture Fund

On average, 40% of all venture fund investments contribute to the fund of funds, with the remaining 60% by venture capital companies and private investors. After the establishment of the Korean fund of funds, venture capital investments by private institutions increased due to the transparent and quantified fund management firm selection process and the establishment of a systematic fund management system, as well as increased investments to domestic venture funds by foreign investment institutions.

Figure 5-7 | Status on Distributors of FoF Drop-down Fund



Source: Small and Medium Business Administration, 2012

As of June 2012, the fund of funds distributed 1.66 trillion won to 233 drop-down venture funds since its establishment in 2005 through scheduled and non-scheduled distribution plans, and through the following fund-raising processes, the total amount of drop-down funds is worth more than 6.52 trillion won.

Table 5-2 | Progress of Drop-down Funds

Class	'04		'05		'06		'07		'08	
	fund	amount	fund	amount	fund	amount	fund	amount	fund	amount
New	6	1,536 (395)	13	4,810 (1,279)	18	4,790 (1,066)	31	7,501 (2,019)	26	5,837 (1,936)
Total	6	1,536 (395)	19	6,346 (1,674)	37	11,136 (2,740)	68	18,637 (4,759)	94	24,474 (6,695)
Class	'09		'10		'11		'12			
	fund	amount	fund	amount	fund	amount	fund	amount		
New	60	14,307 (4,494)	32	9,481 (1,930)	40	16,602 (2,808)	12	2,841 (1,007)		
Total	154	38,781 (11,189)	186	48,262 (13,119)	226	64,865 (15,928)	238	67,706 (16,935)		

Source: Small and Medium Business Administration, 2012

Through the drop-down funds, 4.303 trillion won has been invested to 3,269 SMEs in early to growth stages in not only general manufacturing industries, but also various areas such as IT, bio/environmental/energy, and culture industries such as movies and music. Looking at the investment amount by industry, 27.4% of the amount is invested in IT enterprises, 27.2% in manufacturing enterprises, 7.3% in biotech and environment and energy, and 38.1% in other areas such as the entertainment industry, while the IT industry has the largest number of firms invested, which is 475 (28.8%).

Table 5-3 | The Fund of Funds' Investments in Industries

(As of late June, 2012, in hundred million won)

Class	manufacturing	IT	bio/ environment /energy	entertainment/ others	total
Investment (proportion, %)	11,697 (27.2)	11,789 (27.4)	3,128 (7.3)	16,415 (38.1)	43,029
Invested enterprises (proportion, %)	365 (22.1)	475 (28.8)	106 (6.4)	730 (44.3)	1,648*

Source: Small and Medium Business Administration, 2012

In the meantime, as of late June 2012, the amount retrieved by the fund of funds is 430.1 billion won (the principal of 295.7 billion won and the profit of 134.4 billion won), which is

1.45 times more compared to the principal. Until that time, 12 drop-down funds have been dissolved and retrieved, among which three funds recorded losses, and the internal rate of return for all 12 funds was 7.15%.

The fund has also made a macroeconomic contribution, such as job creation and increase in sales, of businesses invested by fund-of-funds contributed venture funds (June 2008, Korea Fixed Income Research Institute). From 2005 to the first half of 2007, 229.2 billion won was invested in 158 businesses and created 4,504 jobs and increased their sales by 1.13 trillion won (For every hundred million won, two jobs and an increase of sales by five hundred million won). In addition, venture businesses that received venture investment experienced a 132.9% increase in sales and 57.5% increase in employment.

Table 5-4 | Effect of Fund of Funds Investment

Class	Businesses with venture investment	Businesses with fund support from policy	Average SME
Percentage of increase in sales	132.9%	15.8%	5.9%
Percentage of increase in employment	57.5%	10.0%	3.4%

Source: The Korean Association of Small Business Studies (December 2007), Science and Technology Policy Institute (October 2008)

Figure 5-8 | Successful Cases of Venture Investments

① **NHN Corporation**

- Established Naver.com in June 1999, enterprise with portal services such as Naver and Hangame, total investment of 13.3 billion won by VC since Nov. 1999 (SBI 6.6 billion, M-Venture 5.2 billion), listed on KOSDAQ (Oct. 2002), listed on KOSPI (Nov. 2008)
- Discovered stable profit models such as search engine, which is its key service, search ad, and game, successfully settled in market, and protected domestic portal market from foreign enterprises (Sales in 2010: 1.5148 trillion won, net profit : 494.2 billion won)

② **Mega Study Corporation**

- Established in July 2000 as an online course site, total investment of 3.1 billion won from VC since 2001 (SBI 9 hundred million won, Green Technology Investment 9 hundred million won), listed on KOSDAQ (Dec. 2004)
- An enterprise which utilized world's highest Internet penetration rate and fused education and IT, expanded business to HQ video course service (Sales in 2010: 245.8 billion won, net profit: 60.7 billion won)

③ **Osstem Implant Corporation**

- Established in January 1997 as a supplier of medical kits and material, such as dental implants, manufacturing and sales enterprise, total investment of 6.2 billion won by VC since 2003 (Korea Investment 5.2 billion won, Kowell 1 billion won), listed on KOSDAQ (Feb. 2007)
- Reached #1 in domestic market share due to educating dentists on implant surgical procedure and expansion of product application, and through support of fund for establishment of local subsidiary and IPO consulting for developing foreign market, established domestic production of implant medical kit and base for overseas expansion (sales in 2010: 251.7 billion won, net profit : 35.8 billion won)

④ **Ticket Monster Corporation**

- #1 domestic social commerce enterprise established in May 2010 (CEO: Shin, Hyun Sung, over 1 million members in March 2011, 550 employees, investment of 12.5 billion won from Stonebridge Capital since August 2010
- Sales through social shopping from spread of smart phones and SNS, 50% sales from group purchase of product tickets, coupons, and services (sales passed 1 hundred billion won in May 2011)

Expert Interview: Dr. Seungwon Seo,
Director General of Business Start-up and Venture Bureau, SMBA

□ Background of the "Fund of Funds" Creation

• After the burst of the venture bubble in the early 2000s, the venture capital market contracted rapidly, so much so that the amount of venture capital invested in 2004 was less than 30% of that in 2000.

* venture capital investment (in hundred million won): (1999) 9,502 → (2000) 20,211 → (2001) 8,913 → (2002) 6,177 → (2003) 6,306 → (2004) 6,044

• In order to enhance the investment capability of and to provide incentives for private venture capital companies, the government decided to establish the Fund of Funds (called "Mother Fund") worth 1 trillion won until 2009. ("Measures for Revitalization of Venture Business", Dec. 2004)

• The Fund, different from other general funds, acts as seed money by investing in private drop-down funds rather than direct investment, and was established in June 2005 based on 「Act on Special Measures for the Promotion of Venture Businesses」.

□ The Fund of Funds' Future Management

• The government has tried to increase the amount of the Fund and arranged to expand the 'Venture Fund of Funds' to 3 trillion won until 2017 to create an advanced environment for venture capital investment.

• The government provided 1.5 trillion won to the Fund for five years, about 300 billion won each year, with the government budget and other public sources.

• The Fund will be more focused on the early stage venture businesses through higher matching for early stage investors and the angel investment matching funds, to supplement market failures by sharing investment risk for private venture capitalists.

• The Fund will also get involved in creating the virtuous circle of venture capital, especially for the exit of the investments, by participating in secondary funds to support the retrieval market, and M&A funds.

• The Fund will be functioning by itself, without the government's financing since it started to retrieve its investments so that it can reinvest the money in more drop-down venture funds again.

2012 Modularization of Korea's Development Experience
Korean Support System for Venture Business Creation

Chapter 6

Evaluations and Implications

1. Evaluations of Venture Creation Policies
2. Implications to Developing Countries

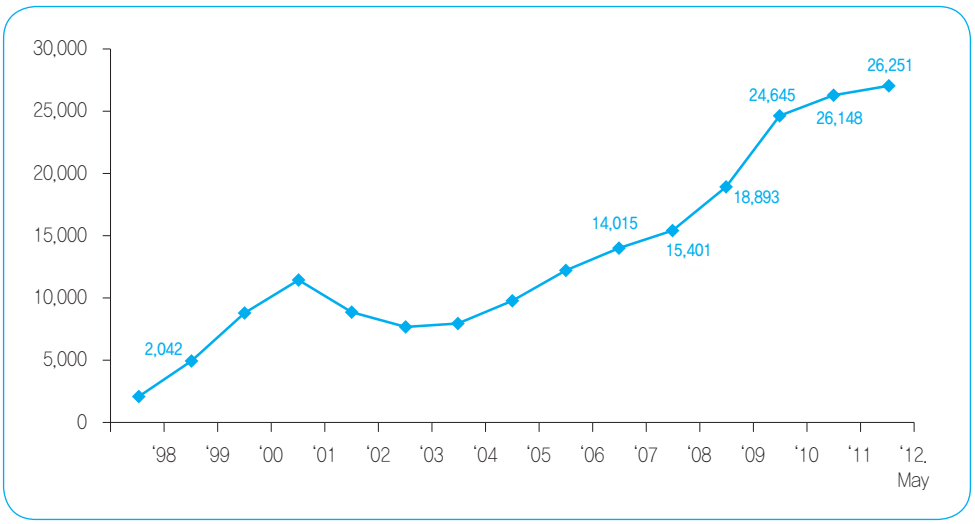
Evaluations and Implications

1. Evaluations of Venture Creation Policies

The Korean support systems and policies for venture business creation and growth have actively played a role in the country's recovery process from the two economic crises in 1997 and 2008. It is true that there have been some concerns about the moral hazard problem in venture businesses, for example, in the form of exaggerated business models to attract investments. However, venture businesses in Korea have contributed to economic dynamism by creating jobs, by increasing exports, and by contributing economic development. So, a lot of people think that venture businesses are now one of the major engines of economic growth, and that it is necessary to set up a better environment for venture businesses for their innovative business activities for sustainable growth and job creation.

Due to the active venture business policies, the number of venture businesses has increased by significant percentages. In the first year (1998) of Korean venture business policies, the number of venture businesses, confirmed by government, was 2,042, while the number was 26,251 in May, 2012. With the exception of the so-called "venture bubble" period of 2002-2004, the number has steadily increased, and even in the world economic recession in 2007 and 2008, there have been more venture businesses appearing across industries, making economic recovery quicker and increasing exports.

Figure 6-1 | Yearly Number of Venture Businesses in Korea



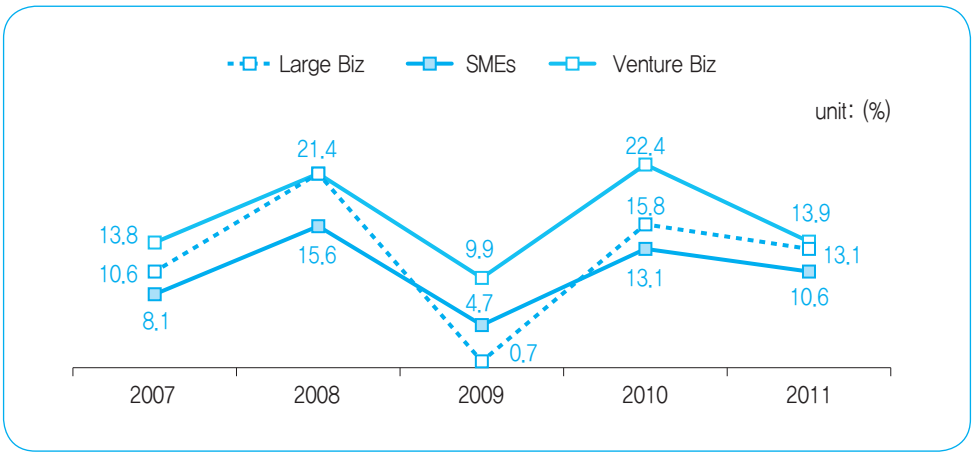
Source: Small and Medium Business Administration, 2012

The main reasons of the steady increase in the numbers of venture businesses in Korea are the government's active and continuous policy support for the venture businesses. The government's creation and investment of more than 1 billion dollars into the Korean fund of funds (so-called "Mother Fund") has induced approximately 6 billion dollars of public-private joint venture funds, which have invested 4 billion dollars into 3,200 venture businesses. In addition, the Korean government has tried to allocate more resources for venture businesses' R&D activities; by pushing government agencies and public institutions to provide more funding for venture businesses and to purchase more newly developed products produced by venture businesses. Therefore, venture businesses have easier access to resources such as venture investments and R&D grants, and more chances of government procurements for their products and services.

Due to the government's policy measures and entrepreneurial activities, Korean venture businesses are a key player in the economy. In 2010, venture businesses employed 670 thousand people, accounting for 5.0% of total employment. Each venture business, on average, employed 27.3 people, which was 7.2 times non-venture businesses'. In addition, their sales was 177 trillion won (approximately, 164 billion dollars), which accounted for 15.1% of GDP. Each venture business, on average, sold 7.2 billion won (approximately, 6.7 million dollars), and had 42 million won in operating profit. In 2011, the rate of increase in sales of venture businesses was 13.9%, which was higher than large businesses (13.1%) and non-venture small businesses (10.6%). The long term comparison between employment

portions between business types shows the role for job creation by venture businesses. Between 1998 and 2006, a venture business, on average, increased its employment by 21.4% annually, while non-venture small business by 4.5% and large businesses by – 4.8%, which indicates the significant contribution by venture businesses to the Korean economy.

Figure 6-2 | Increases in Sales of Korean Businesses



Source: Small and Medium Business Administration, 2012

Another important infrastructure for venture creation and growth in Korea is the IPO mechanism. The KOSDAQ (Korea Securities Dealers Automated Quotation) market, created in 1996 by benchmarking the US NASDAQ, has successfully grown so that a lot of venture businesses have been able to be listed and get funds for their facility expansion and international marketing. Venture businesses received funds of 33 trillion won (approximately, 30.6 billion dollars) for the past ten years through the KOSDAQ market, and 69.9% of the firms listed on the KOSDAQ market were venture businesses in 2011, which means the market is the main channel for venture growth.

A quick explanation of the active role and the rapid growth of Korean venture businesses is “the 100 Million Dollar Venture Club”, which is the group of venture businesses that started up in the 1990s and has grown so that their sales are more than 100 million dollars. The number of venture businesses in the group was 68 in 2005, but 381 in 2012, where the average increase per year is 44.7 businesses. Even in the middle of the world economic recession in 2008, the number of venture businesses in the group increased by 50. Among

the 381 businesses in the group, there are two firms whose sales are more than 1 trillion won (approximately, 0.9 billion dollars). The group members employ 131 thousand people, and represent a total sales of 7.8 trillion won (approximately, 7 billion dollars).[6]

Table 6-1 | Trend of the 100 Million Dollar Venture Club

Class	2005	2006	2007	2008	2009	2010	2011	2012
Number of firms	68	78	102	152	202	242	315	381
Increased (%)	-	10 (14.7)	24 (30.8)	50 (49.0)	50 (32.9)	40 (19.8)	73 (30.1)	66 (21.0)
Newly entered	-	24	34	59	68	73	85	87

Source: Small and Medium Business Administration, 2012

On the other hand, some economists in Korea are criticizing the situation or possibility that the government has been too heavily involved in markets so that private markets have not been able to grow enough, and that there have been many cases of moral hazards and adverse selections in the process of active interventions of the government. Some argue that competition between government agencies for new and more policies for ventures led to a crowd-out in private markets, which delayed the exits of some "zombie" enterprises from the markets, and to the "venture bubble", caused by the greediness of some venture business managers.

More specifically, one of the issues related to government-led venture policies is that the government is "too active". A possible consequence of the "unregulated" venture policies by the government is said to be the KOSDAQ index. The index was 751.8 in 1998, while 2561.4 in 1999, which was a 3.4 times increase in one year. In 2000, however, the index was 525.8, which is only 20.5% of the previous year. Such a sharp increase and a sudden collapse in the venture stock market is partly due to the policies which do not consider the market situations exactly, and that was the main source of the negative backlash on venture policies and the role of venture businesses.

Second of all, it is said that the increase in the number of venture businesses has been due not to the policy effectiveness but to the changes in the criteria of venture certification (Kim, 2011). In 2010, the portion of venture businesses certified from their innovative characteristics is as high as 85.5%, while venture capital invested businesses are only 2.5%

6. Some argue that the performance of Korean venture businesses is because of its "selection bias" through the criteria of venture business. Even if we can't deny the possibility, if the government sets the policy goals at the "increase in the number of such ventures", we need to assess the effectiveness of the policies by the "increase" in the number of venture businesses.

and R&D spending venture businesses are 6.4%. Thus, the government policies for more public loans and guarantees for innovative startups led to the increase in the number of venture businesses, not that more active private venture capital markets or government policies have made more "real" venture businesses. We can use the number or portion of venture businesses listed on the stock market as a proxy of the level of venture revitalization. The portion of venture businesses among companies listed on the KOSDAQ market was the highest at 4.9% in 2004, while it was 1.2% in 2010, which is contrary to the increase in the total number of venture businesses.

Table 6-2 | Analysis of Ventures Listed on KOSDAQ

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Number of Venture Biz (A)	11,392	8,778	7,702	7,987	9,732	12,218	14,015	15,401	18,893	24,645
KOSDAQ listed Ventures (B)	353	378	381	389	405	390	335	268	285	295
B/A (%)	3.1	4.3	4.9	4.9	4.2	3.2	2.4	1.7	1.5	1.2

Source: Small and Medium Business Administration, 2012

Thirdly, it's been criticized that the government sets the goal of venture business policies by the number of businesses certified as ventures, which has induced venture policies to outnumber the venture businesses certified. The more important policy measures should be the infrastructure on which innovative new firms can easily launch their businesses and secure investments from private investors through each stage of their creation and growth.

Fourthly, it is true that the total size of the venture capital market has grown rapidly through government policies, for example, the public venture fund and tax benefits to venture investors. But it is only a part of venture growth stages, since angel investment is very important for startups, and the exit market is critical for the growth of venture businesses. In Korea, however, the size of the angel investments is very small and inactive, and the merger and acquisition market for retrieval of venture capital funds is very limited. The virtuous circle of venture investments and retrieval has not been set up yet, so the government need to take more measures for setting a better infrastructure.

Finally, most venture businesses in Korea have focused on domestic markets. The portion of venture businesses which participate in international business was 39.3% in 2006, which is even lower than 47.7% in 2004. The main reason for that is they don't have

sufficient capability for international marketing, such as personnel and resources for access to international markets. Most member companies of the "100 Million Dollar Venture Club" have actively been expanding their businesses overseas so that they can enlarge their markets for their products and services.

2. Implications to Developing Countries

The Korean support systems and policies for venture business creation and growth have been effective in creating more startups and more jobs through their growth, even if there are some issues especially related to the possible crowding-out of the role of private markets with some moral hazard cases and adverse selections. Venture business have also contributed to boosting entrepreneurship so that a lot of young Koreans now think that you can own and manage your own business to be more independent and to make more money. They know universities have startup education programs and that central and local governments provide training and seed money for young start-ups. The following are the implications from the Korean venture business support system and policies.

First of all, active venture business policies are necessary for more economic dynamism and job creation of developing countries, as well as developed countries. Innovative venture businesses are more effective in job creation and in international markets, and they are very flexible and apt to adjust to new environments. Korean venture businesses have shown their abilities during the recovery process from recent economic crises.

Secondly, the most important component of start-up education is entrepreneurship education, since it can give people the confidence that they can succeed through creating and managing their own businesses, and encourage people to take risks. Start-up education programs include motivation, opportunity, and skills which are necessary for employees in organizations or companies, as well as potential entrepreneurs. So, start-up education can make people successful entrepreneurs and "intrepreneurs" who do innovative activities in organizations or companies.

Thirdly, the most severe obstacle to venture businesses, especially in developing countries, is the poor access to financing. Venture businesses are said to have a higher risk than other businesses, which is why commercial banks and private investors are more reluctant to provide funds for venture businesses. The government can introduce policies to encourage those institutions to provide more money with lower risk. Public loans of mezzanine type or the creation of a public venture fund, which can lower the risk from venture investments, can be good examples for developing countries.

Fourthly, the role of venture capitalists is very important for the promotion of venture businesses because they provide management services as well as business funds. But they need to retrieve their investments for more investments into venture businesses. So, for private venture capital markets to function well, the government needs to set up an infrastructure through which venture capitalists can make profits by retrieving their previous investments. The main channels for retrieving are the stock markets and the M&A markets. Therefore, the government needs to try to set up those markets so that more venture businesses and venture capitalists can utilize those channels by, for example, lowering the thresholds for venture businesses to be listed on the stock market and by allowing special measures for M&A procedures.

Fifthly, venture businesses, by definition, are risky and easy to fail, which is why it is said that the success rate of ventures even in Silicon Valley is only around 3%. But, in most countries, it is almost impossible for those who failed once to restart their businesses again. That experience of failure can be society's knowledge and experiences, which society can utilize for better business chances in the future. Society needs to allow those that failed to do business again by giving them second or third chances since they now know better ways to do business, as long as they experienced an "honorable failure" without any dishonesties. If restart chances are given to bankrupted people, more people are willing to start their own businesses because it won't be their only opportunity.

Finally, developing countries should focus on international markets, since most domestic markets are small, which are insufficient for the virtuous circle of venture creations and growth. "Born global" ventures are more able to grow rapidly, and a few success examples of internationalized ventures in a developing country is a good start to lead a better network and infrastructure for venture creation and growth. Therefore, the government needs to try to identify potential entrepreneurs and ventures so that it can encourage people to actively participate in the economy. In creating and implementing venture business policies, however, governments need to be wary in dividing the roles between the government and the private sectors. That is because the private sectors, for example, the private venture capital market, can also be growing with the venture businesses at the same time. If the government is too actively involved in private markets, it may crowd out the functions of private markets. After about ten years of experience, the Korean government tried to adjust its role in private venture industries by accepting more roles from private economic agents in the criteria of venture business and the certification process, and by changing its policies into more indirect ways to give incentives for private participating companies or institutions. In addition, if the government is directly involved in the venture businesses, private investors can get deceptively strong signals so that they invest too much of their

resources in a few sectors, such as in the information technology industry in the early 2000s. That is one of the reasons for the venture bubble and its eventual burst at that time. Hence, governments need to be very careful about policies that can inadvertently give strong signals by which they may ignore the poor business models of venture businesses.

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APPENDIX 1: Entrepreneurship Education Programs of Major Countries

A. The United States

(a) Overview

Entrepreneurship education in the US has been provided through various programs of a single subject for 50 years since 1955. There were 253 colleges that offered courses or programs of Small Business Management, Entrepreneurship in 1982, and the number increased to 441 in 1993, and entrepreneurship education colleges and graduate schools opened about 2200 courses in 1600 schools in 2006. In addition, there are 44 academic journals regarding entrepreneurial spirit and 275 professors with specialties in entrepreneurial education, and 100 fund centers to support research and programs on entrepreneurial spirit and startups.

(b) Entrepreneurship Program for Each Subject

Every state has a different school system, but it is managed within a unified educational system called K-12 which requires 12 years of mandatory education before college.

ⓐ Elementary Schools: History of business education for children and teenagers is more than 100 years old and there are regular courses, after-school programs, and special programs. Various nonprofit educational institutions such as NCEE, NFTE, JA, and the Kauffman Foundation develop education program to educate or provide to schools.

ⓑ Middle & High Schools: Curriculum of entrepreneurship and entrepreneurship readiness, with the purpose of introducing the entrepreneur's role in start-ups and the economy, is developed and enforced in spiral-stepped education curriculum. This is to provide basic knowledge on the concept of entrepreneurship and on technology at the primary level, and to prepare students for start-ups. There are management of entrepreneurial spirit training programs besides the regular curriculum at the national level.

ⓒ Universities: Since the adoption of entrepreneurship education by Professor Myles Mace at Harvard University in 1945, MIT opened an entrepreneurship course in 1958, and business schools started educating entrepreneurial spirit from the 1970s. In addition, Babson first established an undergraduate major, followed by Baylor, Calgary, and Wichita State. One of the reasons for the increase in courses on entrepreneurial spirit in college is to satisfy innovative and creative students along with battling the resistance of traditional business management education. Each college has a unique educational program and institutions like entrepreneurship

research centers so professors in various areas participate in entrepreneurship education and do interdisciplinary courses and researches, with the aim of raising interest of entrepreneurship by holding courses taught by alumni, entrepreneurs, or venture capitals, meetings, and competitions. Furthermore, various majors (medicine, law, arts, music, computer science) specify their startup ideas with entrepreneurship professors and students, which increase will for start-ups and provide an opportunity to develop entrepreneurial perspectives.

(c) Entrepreneurship Education Outside School

Support of entrepreneurship education are from about 30 organizations such as JA (Junior Achievement), DECA (Distributive Education Clubs of America), NFTE (National Foundation for Teaching Entrepreneurship), EcoVentures International, Economics America (www.eco-ventures.org), EDTEC (www.edtecinc.com).

ⓐ JA (Junior Achievement): Curriculum of economics and management for 9th~12th grade students, to enhance active learning and connect theory to reality through active interaction between volunteers and students. The composition of focal points are economics, finance, management and start-ups, and job preparation and specific programs and development of K-12 educational programs for gradual understanding of the economy and business.

〈JA Program for Each Step〉

Education step	Kindergarten ~ 6th grade	Middle school	High school	University
Contents	1st grade Our Families 2nd grade Our Community 3rd grade Our City 4th grade Our Region 5th grade Our Nation 6th grade Our World	· Individual economy · Business management · International trade	· Economics · Company Program · Connection · Global trade · Economic experience camp · competitions · exchange program	· MMBiz (My Money Business)

ⓑ DECA (Distributive Education Clubs of America): It utilizes field experience and competitions, including start-up and guidance of many high school students to participate through opening competition relevant to entrepreneurship. Prospectus is submitted verbally or in documents and employees of conglomerates are in charge of grading as judges, and it's with the support from 50 businesses such as American Express, Coca Cola, Hilton Hotel, and Marriott International Food Marketing Institute.

ⓒ Ewing Marion Kauffman Foundation: Kauffman Foundation established the Kauffman Center for Entrepreneurial Leadership from 1992 to 2002. It provided training to entrepreneurs, and introduced a curriculum on entrepreneurial spirit to universities with extensive programs to enhance entrepreneurial spirit of all ages for the development and management of various programs for teenagers, college students, adults, females, and minorities. A lot of institutions have launched the Kauffman Campus Initiative as the main program for college students to receive education on entrepreneurial spirit regardless of major and support universities with a matching fund with the provision of substantial help to resolve management problems of existing firms and to realize start-up ideas by students, not simply teaching business.

B. Europe

(a) Overview

Entrepreneurship education for the EU started with Lisbon Strategy 1 in 2000, and continued with the Green Paper: Entrepreneurship in Europe in 2003, Action Plan: The European Agenda for Entrepreneurship in 2004, Lisbon Strategy 2 in 2006, and Oslo Agenda for Entrepreneurship Education in Europe in 2006.

(b) Entrepreneurship Program for Each Subject

<Elementary Schools>

ⓐ (Belgium) Focus on development of behavioral capability such as curiosity, creativity, organization, autonomy, initiative, and team spirit through the Cap'Ten program since the entrepreneurial spirit is built from inspired behaviors during childhood.

ⓑ (Norway) Focus on learning creativity, business ability, method to realize good ideas utilizing an educational tool-box appropriately designed for the curriculum. Teachers receive 3-step training: Step 1 on common understanding on business, step 2 on teacher network and benchmarking, and step 3 on participation of entrepreneurship program at universities.

ⓒ (Scotland) Students learning entrepreneurship by making mini businesses and developing and marketing products and services to create profit.

<Middle and High Schools>

ⓐ (Austria) Entrepreneurship's Skills Certificate provides high-quality entrepreneurial education and cultivates a positive attitude towards economics and entrepreneurship for students.

ⓑ (England) Young Enterprise Company Programme provides opportunity for students between the ages of 15 to 19 to manage virtual businesses for one academic year with the help of volunteers currently in the field.

<University>

ⓐ (Netherlands) Twente University manages the TOP program, and the purpose of this program is to support offices, help with administrative work, rent expensive lab equipment, offer introductory courses to entrepreneurship, finance (12,000 Euro with no interest), and provide business mentorship for graduates to manage knowledge-based start-ups for a year.

ⓑ (Ireland) Dandalk Institue of Technology runs various entrepreneurship education programs such as agricultural science, sports leadership, hospital and tourism, event management, culinary arts science, engineering, early childhood education, multimedia, cultural history, management information system, finance and accounting, and marketing and business administration.

(c) Entrepreneurship Education Outside School: JA-YE Program

ⓐ Purpose: Preparation and encouragement for success of next European youth generation in global environment.

ⓑ Values pursued: Trust for infinite potential of teenagers, responsibility for market economy and entrepreneurship education, passion for work, superiority of honesty and method, talent of teenagers, creativity, respect for future hope and background, trust of partnership and accomplishment of cooperation, motivation for method of learning business and firm belief for educational effect.

ⓒ Management method: Entrepreneurship education program is planned for teenagers by age groups and is managed through close partnership with regional businesses and schools.

ⓓ Key success factors: Direct participation from business community, practice and verification of entrepreneurship program across all European countries, international festival for students, teachers and business advisers every year, delegation of

entrepreneurship education from the European Commission and education, industry, and finance departments of each country, extensive training and support of teachers.

C. Japan

(a) Overview

The Japanese government set a nurturing entrepreneurial spirit as the main policy to secure the economic growth engine, and has reinforced education to nurture entrepreneurial spirit through educational institutions such as elementary, middle, and high schools and colleges since 1999. The purposes are promotion of nurturing university-based start-ups, securing angel funds, supporting business incubating centers, alleviating regulations on company establishments, venture startup events for entrepreneurial spirit to be actively demonstrated.

(b) Entrepreneurship Program per Subject

<Elementary, Middle, and High Schools>

Education of entrepreneurial spirit and necessity of start-ups as a part of career education in elementary, middle, and high schools, and support for start-ups through venture business research forum in colleges.

<University>

Lack of entrepreneurship education in colleges and graduate schools is one of the reasons for the low start-up rate. According to a survey by the Organization for Small & Medium Enterprises and Regional Innovation in 2000, only 1.6% of Japanese adults (age 18~65) take entrepreneurship training course in colleges and graduate schools. The number of universities that open courses on entrepreneurship education keeps increasing. Universities, the base for creation of knowledge and innovation, are expected to return to society by commercializing knowledge as well as nurturing entrepreneurs, and the number of university-based start-ups was 1590 companies in the late 2006, which is 2.7 times more than in 598 companies in 2001, according to 「University-based venture-1000 companies plan」 presented in May 2001.

(c) Entrepreneurship Education Outside School

ⓐ Regional autonomy and private utilization-type career education project: Provision of opportunity for teenagers to mediate on their relationship with society as values of society and thoughts of teenagers changed and youth unemployment increased since 2005.

ⓑ Characteristics of the project: Affiliation with regional businesses with the private sector such as businesses and nonprofit organizations with know-how of job education in the center to effectively utilize private educational resources, which will help plan the project for teenagers to understand meaning and the joy of work and to seek career education applicable to real society. It is a set-up of standard module after promoting a model business through a three-year plan and pursuit of autonomic regional proliferation (28 model businesses in plan period from 2006 to 2008).

ⓒ METI acts as an agency coordinator to secure and provide work-study institutions or dispatch guest speakers through cooperation with each region's educational asset (local governments, education-related nonprofit organizations, Parent-Teacher Association, communal house and technicians from mid-sized firms, retired talents).

ⓓ Events to nurture entrepreneurial spirit are necessary to create an atmosphere to heighten public understanding and evaluation of start-ups and ventures to seek revitalization of new businesses and numerous venture start-ups. 'Startup Venture National Forum' has been organized by concentrating an extensive array of people experienced in start-ups and scholars, and to spread the entrepreneurial spirit.

APPENDIX 2: Business Incubating Programs of Major Countries

A. Israel

(a) Background

Background to promoting business incubating policy is to resolve unequal regional development and absorb pre-Soviet emigrants by incubating cutting edge technology start-ups. The government is promoting regional economic development by dividing its territory into Zone A, B, and C and supporting development of less developed Zone A and B with the start-up revitalization policy. The government is in charge of financing to reduce market failure of businesses in the early stage of a start-up since technology start-up has a high rate of failure in the early stage, and its support of seed financing, lacking in the early stage of technology start-up, from the technology business incubation budget of OCS (Office of the Chief Science).

The main purpose of the technology start-up support policy is for the active inducement of start-ups by innovative scientists and technicians from Jews coming into Israel to contribute to the development of the national economy. It was initiated as a part of an immigration policy to support employment and successful adaptation to capitalist market economy of technically-skilled Russian immigrants, and to increase the success rate of start-ups by supporting transition from innovative ideas or technologies in the early stage to marketable products or technologies.

(b) Characteristic and Trend of Business Incubation Policy

ⓐ Aim for globalization from start due to weak domestic market: The government proposes and actively supports Israeli venture model of financing and having IPO in the US by establishing a company in Silicon Valley. As a result, Israel grew to a country with global technologies in cutting edge areas such as the Internet, communications, software, and biotech, and conglomerates started establishing R&D centers and investing venture capital in Israel.

ⓑ Active adoption of incentive system to secure global investment and outstanding workforce: Various incentives such as tax benefits for foreign investment and outstanding workforce, subsidies, and guarantees, and especially security of Jewish talents.

ⓒ Support of appropriate fund for venture capital and incubator and venture establishment: YOZMA fund established by private venture capital and the government in the 1990s greatly reduced the failure rate of start-ups in the early stage. It also promoted the start-up support policy on management, marketing, law, and accounting besides

providing funding support.

(c) Business Incubation Program and Case

ⓐ TIC (Technological Incubator Center) Program

TIC is the key project of the technology start-up policy, which aims for balanced, national development and connection of new technology and promising idea start-ups with product development, and initiated as a start-up support policy for 65 thousand of the science technology workforce out of 750 thousand Jews who returned after the collapse of Soviet in 1991. It was a limited two year incubation period, during which pre-entrepreneurs with innovative technological ideas are supported with R&D environment. It is possible for center establishment and management if the start-up idea is connected with VC for commercialization and yearly budget of 30 million dollars is secured in individual company type. The government supports 85% of the project budget to selected pre-entrepreneurs and maximum funding support is 147,000 dollars a year, 294,000 dollars for two years.

ⓑ Public Venture Capital Fund (YOZMA fund) Creation and Management:

YOZMA Fund was created with 100 million dollars from government contribution in 1991, supervised by OCS under the Ministry of Industry and Trade. Private fund firm created YOZMA Management & Investment Ltd and managed with 100% government holdings, and switched to private management in 1997. The purpose of the fund is to encourage investments in high-tech industry to international investment departments of main countries and global enterprises to promote start-ups in promising technology areas.

ⓒ MAGNET Program

MAGNET program is a startup support program supporting technology commercialization and Generic Pre-competitive Technological R&D before market competition and also for the security of infrastructure for fundamental technology and promotion of cooperation between industries and research institutions. Standards of selecting projects eligible for support are academic-industrial cooperation and commercial potential from development phase of fundamental technology. There were 308 R&D consortiums jointly participated by industries and research institutions in the last five years, as of late 2001, and two associations were formed to support entrepreneurs for revitalizing utilization and proliferation of developed technology. As an incentive for businesses and research institutions for joint R&D promotion, 66% of approved project budgets will be supported as subsidiaries, which will not require royalty repayment, different from other subsidiaries.

B. England

(a) Background

SME and social enterprises played a key role in economic development in England, and start-up revitalization is promoted through a thorough market economy system rather than a strong start-up support policy or funding support by the government. Recently, for revitalization of sustainable and long-term economic growth, the government declared "The Plan for Growth" in March 2011 to make England an optimal country for start-up and business growth, and its main start-up activity index recently reveals revitalization of start-ups in their early stages through opportunity entrepreneurship. According to 'Global Entrepreneurship Monitor,' England's nascent entrepreneurship rate is 4.7%, new business ownership rate 2.6%, early-stage entrepreneurial activity 7.3%, and opportunity entrepreneurial activity 80.8%, which are above the average of all innovation-led countries.

(b) Characteristic and Trend of business Incubation Policy

England declared reform of business support system such as active funding support, deregulation, and support program integration, rather than 'optimal country for start-up and business growth' through 'The Plan for Growth' declared in March 2011. It reinforced a network among unofficial investors (angel investment) in England with relevance to financing start-up and SME in a broad sense, and tried to have organic cooperating system between public and private sector mostly through networks supervised by businesses' council on job training and Business Link.

(c) Business Incubation Program and Case

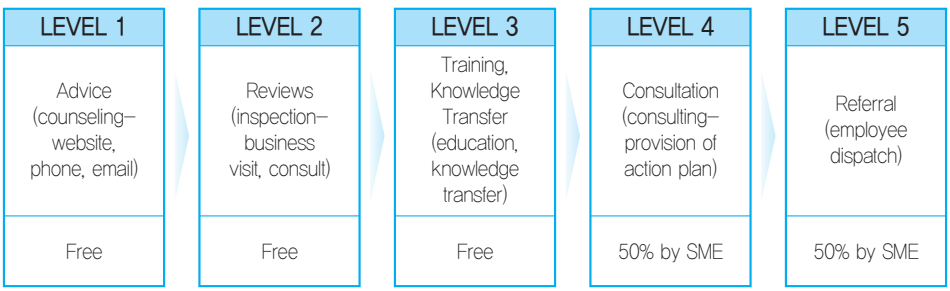
ⓐ Overview

England unified into the 'Business Link' from a system in which support came from different programs of separate government institutions, which have integrated support management so that all entrepreneurs can get efficient support from the government by increasing direct and user-friendly approachability for pre-entrepreneurs and start-up businesses. It substituted the existing 3,000 business support programs to 30 new programs of 'Solution for Business' from Oct. 2008 to March 2009 and terminated all existing business support programs in 2010. Businesses seeking support will receive first counsel through the 'Business Link,' and will be connected with staff from an extensive array of expert organizations, government institutions, regional development agencies, and local governments supported by the 'Business Link'.

ⓑ MAS (Manufacturing Advisory Service)

The program started in 2002, which benchmarked MEP (Manufacturing Excellence Program) of the US. There are 11 regional centers such as MAS East that are managed by a fund of BIS and nine regional development organizations (1/3 per federal, state government, and business). It has five steps of differentiated service for increasing business competitiveness, efficiency, and support for low-carbon and advanced manufacturing technology.

〈MAS service procedure〉



ⓒ The Start-up Factory

The program started as a start-up support program of England's biggest nonprofit, independent start-up support institution, NESTA (National Endowment for Science, Technology and the Arts), and it benchmarked the 'Start-up accelerator' in the US. Its main purpose includes continuous inducement of many start-ups through mass production and identical input into production process, like the metaphorical title factory. Currently, there are 11 'Startup factories' all over Europe since 2007, contributing to revitalization of start-ups all over Europe by investment in many start-ups in the early stage through the 'Startup Factory', with England in the center.

C. Finland

(a) Background

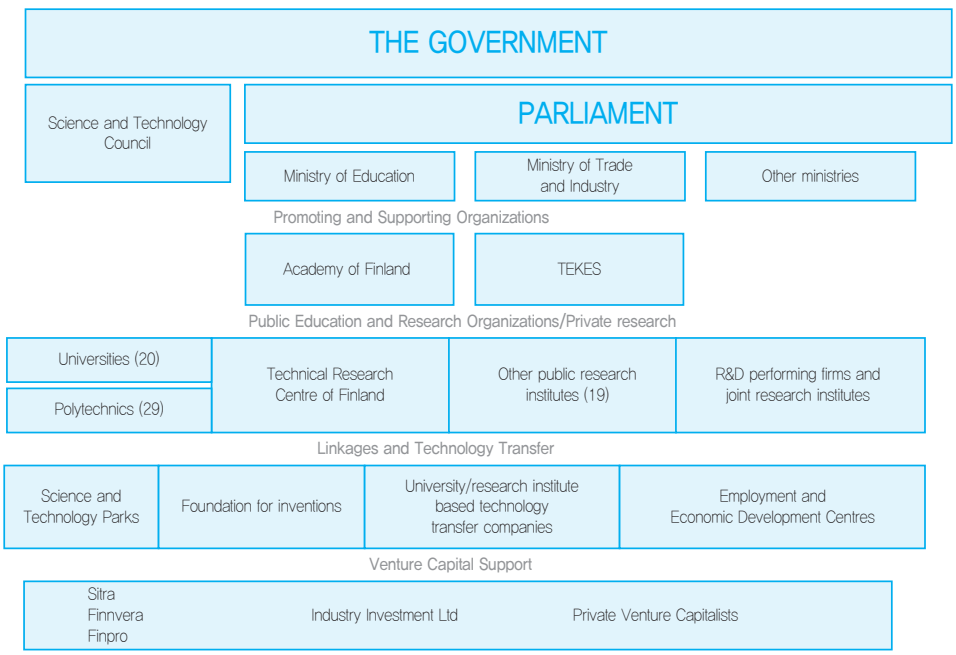
As a part of core strategy that forms economic development since the 1950s, the government actively intervenes to increase innovation, such as encouraging R&D to businesses. R&D investment proportion compared to GDP is 3.84%, second behind Israel (4.25%), and the number of researchers is 15.7 out of 1000, which is the highest out of 35 countries. It needs successful business incubation model of fusing industry and academics through close links among businesses, university research institutions, and government

under the government's policy to increase national competitiveness through continuous technological innovation.

(b) Characteristic and Trend of Business Incubation Policy

Finland's technological innovation system is systematic and an organic cooperation among several institutions to facilitate cooperation and work share. It also promotes policy to support effective start-up activities with physical proximity of industrial, academic, and research institutions, on the basis of academic-industrial fusing business incubation model.

〈Business Incubation System in Finland〉



Source : Science and Technology

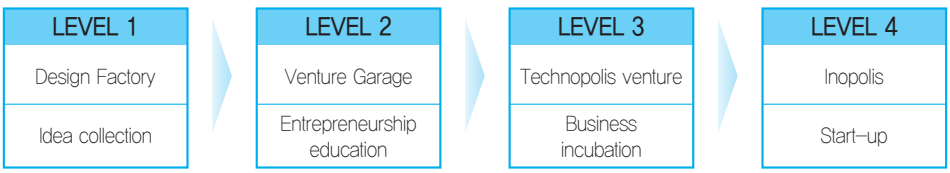
(c) Business Incubation Programs

ⓐ Otaniemi Science Park : Multi-stepped startup support program

The program built custom-made start-up support system for each start-up stage through cooperation among industry, academic, and research area by raising physical, spatial proximity and mutual connectivity. It is an establishment of industry-academic fusing system such as excavation and collection of innovative ideas, R&D and start-up support through Open Innovation among industry, academic, and research areas to accomplish start-up, final goal of academic and industrial cooperation. It has achieved a yearly excavation

of 500 ideas, 40~70 new start-ups, and more than 200 patents through academic-industrial fusing system.

〈Multi-level startup support system of Otaniemi Science Park〉

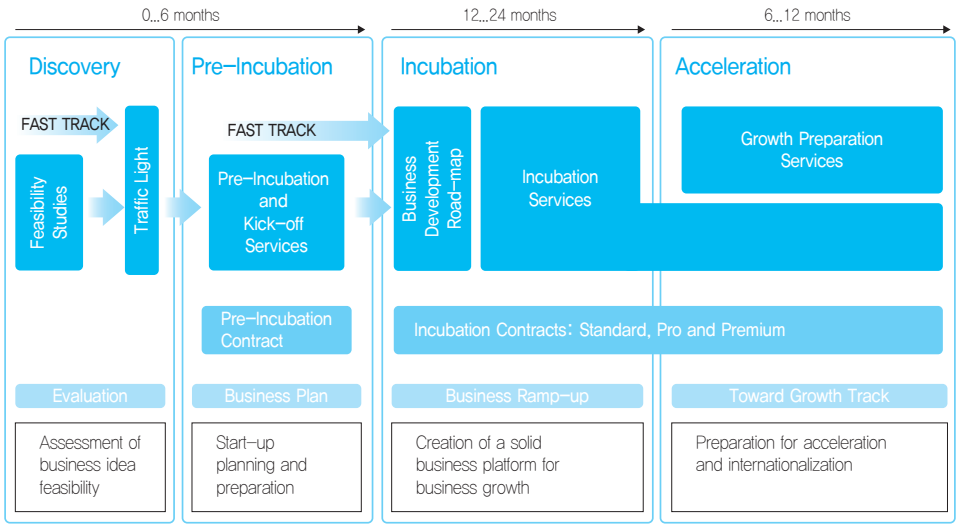


ⓑ Technopolis Ventures Ltd.: TeVe

TeVe is a representative institution out of technology business incubation system institutions, and is Finland's biggest business start-up support institution, incubating 200 knowledge-based high-tech start-up businesses in six regions, and also a nonprofit institution under Technopolis Plc., listed in the stock market. TeVe actively supports entrepreneurs starting businesses through various evaluations and consulting before entering an incubator, and manages support programs even after businesses become global after graduating from the incubator. The survival rate of businesses participating in the TeVe incubator is 86%, and the average annual growth rate of start-up businesses is 50%, which shows a very successful accomplishment in nurturing high-tech based start-up businesses.

Incubation process of TeVe is composed of four steps, from business item excavation and assessment (Discovery), pre-incubation, incubation, to acceleration. It takes an average of 0~6 months for item excavation, evaluation, and pre-incubation, 12~24 months for incubation, and 6~12 months for growth promotion and globalization. Most programs provided by TeVe are charged since they help resident businesses, and growth acceleration and the globalization program is supported by government funding.

〈Technopolis Ventures Startup Support Program Overview〉



Source : www.technopolisventures.fi

www.ksp.go.kr

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