

2016/17 Knowledge Sharing Program with United Arab Emirates: Strengthening SME Policy Capacity of UAE Using Korean Experience



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Knowledge
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2016/17 Knowledge Sharing Program with United Arab Emirates:

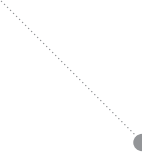
Strengthening SME Policy Capacity of UAE using Korean Experience



Ministry of Strategy
and Finance



Korea Development
Institute



Preface

Knowledge is a pivotal driver of growth and the fruit of all endeavors dedicated to socio-economic development. Accordingly, knowledge sharing has become an essential tool in strengthening nations' capacity to design and execute policies and programs. On the global front, the UN is making efforts through its Sustainable Development Goals (SDGs) to underscore the role of both knowledge and knowledge sharing in tackling sustainable development issues and in establishing and enhancing global partnerships.

Indeed, knowledge laid the foundations for Korea's remarkable transformation from a poor agro-based economy into an industrialized nation with an open and democratic society. And the process, though arduous, has enabled Korea to accumulate invaluable and practical lessons not found in conventional textbooks. Now, as a global economic leader, Korea is working with the international development community and partner countries to identify key development challenges and solutions by sharing its tangible know-how and experience.

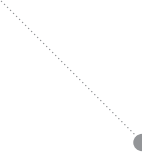
The Knowledge Sharing Program (KSP) was initiated in 2004 by the Ministry of Strategy and Finance (MOSF) and is implemented by Korea Development Institute (KDI). The program plays a vital role in further expanding knowledge sharing as well as in strengthening government partnerships with low to high income economies. As of this year, 940 research studies have been conducted with 59 partner countries. And in 2016, KSP policy consultations and capacity building workshops were organized with 28 partner countries including new partner countries such as Jordan and the Sub-Saharan Africa Partnership for Skills in Applied Sciences, Engineering and Technology (PASET).

The 2016/17 KSP with United Arab Emirates was undertaken by MOSF and the Ministry of Economy of UAE to support the goal of "Strengthening SME Policy Capacity of UAE using Korean Experience." To that end, KSP and UAE engaged in a range of collaborative efforts including exchanging development experiences, conducting joint studies, and designing a policy action plan in line with the country's development targets.

It is with great optimism for the future of UAE that the results of the 2016/17 KSP are presented. I firmly believe that KSP will serve as a stepping stone to further elevate the mutual learning and economic cooperation between both our countries, and hope it will positively impact UAE's attainment of its goals for sustainable development.

I wish to convey my sincere gratitude to Senior Advisor Ambassador Taekyun Kwon, Principal Investigator Prof. Dong Yoon Oh as well as project consultants Prof. Kang Baek, Prof. Won Jun Kwak and Mr. Kabsoo Yang for their extensive contributions. I am also grateful to Executive Director Dr. Kwangeon Sul, Project Manager Mr. Taehee Lee, Project Officer Ms. Yoojin Jeong and all members of the Center for International Development (CID) for their hard work and dedication to this program. Lastly, I extend my warmest thanks to the collaborates in UAE, Ministry of Science and Technology(MOST), Ministry of Economy, SME National Program, Abu Dhabi Department of Economic Development, Dubai SME, Sharjah Department of Economic Development, Ajman Department of Economic Development, Ras Al Khaimah Department of Development and Alfujaira Department of Industry and Economy and related agencies, project coordinators, and participants for their steadfast effort and support.

Joon-Kyung Kim
President
Korea Development Institute (KDI)



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2016/17 KSP with United Arab Emirates

Yoojin Jeong, Project Officer (Korea Development Institute)

The Knowledge Sharing Program (KSP) with the United Arab Emirates (UAE), started in 2010, has sought close cooperation with the UAE government to provide policy recommendations through in-depth discussions and analysis of global best practices on key policy areas of the UAE. In line with the Mideast country's policy priorities, knowledge sharing between both countries through the KSP has mainly covered information and communications technology (ICT), industrial policy and small and medium-sized enterprises (SMEs).

The key objective of the 2016/17 KSP with the UAE is to strengthen the latter's policy capacity for supporting SMEs. Thanks to the unwavering support and cooperation of the UAE's Ministry of Economy (MOE), the Korean Ministry of Strategy and Finance (MOSF) and Korea Development Institute (KDI) successfully implemented a series of KSP activities. Under the overall theme of "Strengthening SME policy capacity of UAE using Korean experience," this KSP covered three sub-topics: finance: credit guarantee system; human resource development: scientists and technicians; and market access: public procurement and export.

As an implementing organization, the KDI formed a group of experts for each topic headed by senior adviser Taekyun Kwon, a former Korean ambassador to the UAE, and senior researcher Dong Yoon Oh, a professor at Dong-A University in Busan, Korea.

The table below is the roster of the project team for the 2016/17 KSP with the UAE.

Topics	Research Team
Senior Adviser of 2016/17 KSP with UAE: Taekyun Kwon / Former Korean Ambassador to UAE	
Project Manager: Taihee Lee, Specialist at CID, KDI Project Officer : Yoojin Jeong / Research Associate at CID, KDI	
Korea's experience in development of SME policy	Dong Yoon Oh, Professor, Dong-A University (Principal Investigator)
SME financing	Kang Baek, Professor, Hanbat National University
Human resource development of SMEs	Won Jun Kwak, Professor, Soongsil University
SME domestic & overseas marketing, procurement	Kabsoo Yang, Chief, Marketing Support Department, Korea Federation of Small and Medium Business (KBIZ)

As the first step of the 2016/17 KSP with the UAE, the KSP team conducted a High-Level Demand Survey and Pilot Study from July 15th – 20th, 2016 in Dubai and Abu Dhabi, UAE. From this trip, Korean delegation, with the UAE Ministry of Economy (MOE), found that the country's SME ecosystem including legal frameworks, support systems, organizational arrangement and other incentive programs were well-functioning. In particular, the newly established SME Council, which consists of 14 federal and regional entities, was expected to greatly support SMEs throughout the UAE. Hence, both sides decided to share the Korean experience in SME development with the UAE's seven emirates through the Department of Economic Development (DED) of each emirate to raise the implementation capacity of policy practitioners. Accordingly, this report aims to assist the UAE policy practitioners' understanding on SME policy simply by presenting a comprehensive picture of Korea's SME policy areas such as finance, human resource development and market access and is not an official publication of KDI.

The first Capacity Building Workshop titled "Training Workshop on SME Economic Policy for the Ministry of Economy and Department of Economic Development for Each of the Seven Emirates" was held in Dubai Dec. 25–29, 2016. The objective of this workshop was to enhance the capacity of government officials in implementing SME policy by introducing Korea's experience in SME policy development and to jointly create knowledge and find implications of SME policy development of the UAE through a series of in-depth discussions between KSP researchers and UAE participants. Four Korean experts gave presentations on Korea's experience in SME policy development, specific SME policy precedents in SME financing, domestic and overseas marketing, and human resource development.

Building on continuous exchanges between the two sides, Korea hosted Interim Reporting and Policy Practitioners' Workshop Feb. 19–24, 2017. Six delegates led by Ayman Ibrahim (Minister's Adviser for Policy & International Cooperation, MOE) paid a visit to Korea to participate. In the interim reporting section, the KSP researchers delivered in-depth presentation on finance, human resource development and market access and received insightful feedback from the UAE delegation consisting of representatives from the MOE, SME National Program and DEDs of each emirate. The UAE delegates also participated in the Policy Practitioners' Workshop and visited seven government agencies and organizations in Korea for talks with SME experts and practitioners.

The Final Reporting session gave a memorable ending to the 2016/17 KSP with the UAE. Led by Taekyun Kwon, the Korean delegation visited Dubai April 17–20 to present the draft final report to UAE Minister of Economy Sultan bin Saeed Al Mansouri. The Final Reporting on April 19 was attended by Minister Al Mansouri, along with his adviser Ayman Ibrahim and representatives from the DED of each emirate. Dong-A University professor Dong Yoon Oh gave a comprehensive presentation on the final report's content and policy recommendations. Following the presentation, all participants provided feedback and discussed further cooperation.

Executive Summary

Dong Yoon Oh (Dong-A University)

In 2010, the United Arab Emirates launched UAE Vision 2021, which set the key themes for the Mideast nation's socioeconomic development and recommended a shift toward a more diversified and knowledge-based economy. In economic development, the plan aims to make the UAE among the World's best for entrepreneurship, play a key role in unlocking the potential of the UAE population and enable the UAE people to serve as the driving force behind economic development through small and medium-sized enterprises (SMEs) in the private sector. SMEs are seen as major contributors to economic growth and diversification. In addition to playing a crucial role in the UAE's transformation into a knowledge-based economy, the SME sector is a key generator of jobs that can also mitigate negative economic and social effects.

UAE Vision 2021 has a national index requiring the SME sector to contribute at least 70 percent of the nation's non-oil GDP by 2021. The SME Council reviews and approves funding programs for SME entrepreneurs in the UAE based on recommendations from the Central Bank of the UAE and Emirates Development Bank. The council also provides guidelines and rules on coordination between concerned programs and entities and sets the conditions and criteria for membership in the National Program for SMEs and projects.

The 2016/17 Knowledge Sharing Program with the UAE focused entirely on strengthening the SME policy capacity of the UAE using lessons from the Korean development experience. So the four topics for this KSP greatly deviated from these main tasks. The four had the key themes of i) historical overview of Korean SME

policy; ii) financing: credit guarantee system; iii) human resource development: scientists and technicians; and iv) market access: public procurement and export.

1. Historical Overview of Korean SME Policy

Due to the high quantity and diversity of SMEs, devising SME policy is difficult due to the inherent conflict between the official and economic perspectives. From the official perspective, an SME support policy is designed to allocate benefits for a large number of SMEs. From the economic perspective, such a policy should target select SMEs with high growth potential.

The public sector faces challenges in deciding selection and concentration as the basic paradigm for supporting SMEs. In general, the functional approach for assisting smaller companies requires financing, human resources (labor force), technology (R&D) and sales channels (marketing). In addition, the objective approach to SME support is divided into globalization (or export), micro enterprises (or self-employment), startups and technology. The major categories of policy tools aimed at starting and fostering SMEs are startups, venture business, high potential enterprise, shared growth, exports, business environment, technology, micro enterprises and traditional markets. The following is a brief summary of each policy.

The development period of Korean SME policy can be divided into three stages. The first was from the 1960s to the mid-70s. In the early 1960s, Korea's industrial policy centered on import substitution emphasizing the production of consumption goods. At the time, the country developed labor-intensive light industries and had SMEs manufacture daily items. The second stage that started in the late 1970s and ended in the 80s saw a priority shift from light industries to the high value-added heavy and chemical sector. The latter's rapid growth fueled the quantitative leap of SME manufacturers of parts and materials consumed by the heavy and chemical industry, replacing imported parts and materials. SMEs also played a key role in Korea's localization of parts and components.

The third stage began in the 1990s. Early that decade, the Korean government sought to have SME policy promote autonomy, an open market and competition. After the Asian financial crisis of 1997-98, given the massive restructuring of the Korean economy, government policy largely concentrated on restructuring of SMEs and improvement of responsiveness to market opening. Today, the objective of Korea's SME policy has shifted away from protection of the domestic market toward encouragement of innovation and self-reliance through competition and cooperation.

Nowadays, the major policy tools aimed at starting and developing SMEs are startups, venture business, high potential enterprise, shared growth, exports, business environment, technology, micro enterprises and traditional markets. Meanwhile, the Korean government's new priority is the promotion of small but globally competitive companies to serve as the pillar of the Korean economy.

2. Financing: Credit Guarantee System

The global economy is stuck in a downturn as forecasting economic trends is growing more difficult, and to make matters worse, there is a high possibility of a double dip recession. To overcome the global economic crisis, many countries are trying to boost domestic consumption by implementing policy measures such as expansion of fiscal spending and injection of public funds. They are also working on a range of international cooperation plans on stimulating the economy and preventing the spread of the European crisis, but this is not expected to induce economic recovery in a short period of time.

Rapid changes to economic conditions require a shift in policy measures toward fostering SMEs, which are the cornerstone of an economy. SMEs have played major roles in job creation, technological innovation and domestic market expansion, yet many confront difficulties in raising funds because of lack of collateral. Moreover, barriers to SME financing are expected to worsen owing to the breakdown of global finance systems resulting from the economic slowdown. In this situation, further emphasis is put on the roles of the credit guarantee system, which helps SMEs achieve smooth funding supply from the financial market. Against this backdrop, the credit guarantee program is widely recognized a highly effective policy measure to support SMEs operated all over the world. In Korea, this program has established itself as a major axis in SME financing over the last 35 years since the introduction of the Korea Credit Guarantee Fund (KODIT) in 1976.

This report focuses on the innovation efforts of country-specific and regional credit guarantee institutions in the new financial environment. The researchers collected, compared and analyzed the research findings published by international organizations and academic institutions as well as the materials of each guarantee institution. This paper consists of three parts. Part 1 introduces the theories and economic functions of the credit guarantee system in operation across the world and compares and analyzes them. Part 2 reviews Korea's experience and active running of the credit guarantee system. And Part 3 offers the KSP's policy recommendations.

3. Human Resource Development : Scientists and Technicians

Science and technology human resource development (S&T HRD) remains a major obstacle for SMEs, which find it hard to attract talented staff and consequently need to develop their own personnel. In Korea, S&T HRD has been actively pursued and conducted in accordance with the development of the Korean economy and industry. Because Korea is a Confucianism-based society in which higher education is valued and those with advanced degrees are respected, however, vocational education, an essential element for providing an adequate number of quality S&T HR for SMEs, has suffered considerable neglect and marginalization.

Acknowledging this undesirable social tendency to undervalue vocational education, the Korean government has made significant efforts toward strengthening vocational education for promoting a “competency-focused” society. In line with this campaign, new types of vocational institutes, namely Meister high schools, world-class colleges and polytechnic universities, have been established. Vocational high schools have played a significant role in providing S&T HR, but remain limited in being perceived as second-tier educational institutions of lower quality. So naturally, graduates of such schools are considered less qualified and talented than those from regular high schools. To overcome this negative perception, Korea introduced the Meister high school in 2010. At the college and university level, world-class colleges and polytechnic universities have been crucial sources of S&T HR for Korean workplaces, including SMEs. Such colleges receive state support as vocational colleges because of their excellent education capacity. A polytechnic university is a skill-oriented and public educational institution that trains and develops skilled workers. It not only produces qualified job applicants sought after by companies and industries, but also sharpens and enhances the skills and job-related knowledge of working professionals, especially from SMEs.

Following the Korean government’s education and labor policies of “Competency Based” and “Employment First, College Later,” vocational schools have not only helped SMEs obtain valuable S&T HR and reduce employee training and development costs, but also enhanced the overall reputation of vocational education in Korea. This change in the perception of vocational education has shifted Koreans’ focus on getting a job rather than an academic degree, and also helped create a larger pool of job applicants. This is a welcome development for SMEs, which frequently struggle to attract talented employees.

Four policy tasks are recommended for the Korean government. First, by publicizing and promoting the successes and achievements of S&T HR hailing from

vocational schools, the public sector needs to continue its campaign to persuade Korean society to value vocational education through changes in the social climate and culture. Second, given Korean employees' enthusiastic demand for higher education and career opportunities, they should get wider access to a work-learning dual system. Third, systematic support needs to go toward both vocational schools and their students and graduates to make working for SMEs more attractive. Finally, screening and selection of S&T HR from vocational schools should be based on competency, not degree earned. This will help public and large companies and organizations to get over their reluctance to hire vocational school graduates.

4. Market Access: Public Procurement and Export

The expansion of purchasing SME products by public organizations has been a major boost to SME output and competitiveness. Leading SMEs worldwide try to export aggressively to overcome the limitations of their respective domestic markets and expand sales. So the Korean government is implementing diverse and effective policies for bolstering support for public purchasing and exports by SMEs.

Korea has a number of public procurement systems that require public agencies to buy SME-made products. The public procurement system for SMEs is categorized into three sectors: the purchase target percentage system, competition among SMEs and priority purchasing of SME products. Korea has strengthened government support for SMEs by purchasing more than 70 percent of public sector purchases through the public subsidy system. The UAE government is highly recommended to adopt an SME competition system and priority purchasing of technology development products, and to expand the e-procurement system under development in Dubai.

The Korean government has also utilized policies for export support, ranging from the planning to implementation stages. Export support policies includes those for education, consulting, market research, matching sellers with buyers, acquiring overseas certifications, participating in overseas exhibitions, trade finance and patent disputes. In particular, a variety of trade insurance systems reduces the credit risk of SME exporters arising from the risk of importers' breach of contract, default or delay in or rejection of payment. The systems are classified as long or short term based on two years, and various forms of trade insurance are offered. Also, insurance for foreign exchange fluctuations is provided.

For policy toward export and trade insurance, an export education system that meets the characteristics of SMEs in each UAE region is recommended, as well as an incubator to support localization abroad. And the UAE is advised to expand its trade insurance policies to minimize trade risk. In preparation for the post-oil era,

the UAE government must expand its policy measures toward public procurement and export support for SME products.

Historical Overview of Korean Policy toward Small and Medium-sized Enterprises (SMEs)

1. Status of SMEs
2. Perspective of SME Policy
3. Evolution of SME Policy
4. Major Areas of SME Policy
5. Legal Framework for SMEs

Historical Overview of Korean Policy toward Small and Medium-sized Enterprises (SMEs)

Dong Yoon Oh (Dong-A University)

Summary

Small and medium-sized enterprises (SMEs) play a pivotal role in creating jobs and generating income. They typically account for the vast majority of businesses and most employment, and contribute a substantial proportion of a country's gross domestic product (GDP). Competitive SMEs can eventually grow into large corporations. And though only a few start-ups grow to a significant size, the SME sector is the seedbed for them.

The large number and diversity of SMEs, however, make it difficult to formulate SME policy. Such a policy can cause conflict between the official and economic perspectives. From the official perspective, the support policy for SMEs is designed to allocate benefits to a large number of SMEs. From the economic perspective, however, the policy goal is to target specific SMEs with high growth potential.

The government faces challenges in setting SME selection and concentration as the basic paradigm for supporting such companies. In general, the functional approach for supporting SMEs includes finance, human resources (labor force), technology (R&D) and sales channels (marketing). In addition, the objective approach to SME assistance is divided into globalization (or export), micro enterprises (or self-employment), start-ups and technology.

The development period of Korean SME policy can be classified into three stages. The first was from the 1960s to the mid-70s. In the early 1960s, Korea's industrial policy focused on import substitution emphasizing the production of consumption goods. At the time, the country developed labor-intensive light industries and had SMEs manufacture daily items. The second stage was from the late 1970s to the 80s. Korea shifted its focus in industrial policy from light industry to the high value-added heavy and chemical sector. The latter's rapid growth fueled the quantitative rise of SMEs that manufactured parts and materials consumed by the heavy and chemical industry, replacing imported parts and materials. Such companies also played a key role in the localization of parts and components abroad.

The third stage began in the 1990s. Early in the decade, government policy toward SMEs emphasized autonomy, an open market and competition. After the 1997-98 Asian financial crisis, when the Korean economy underwent massive restructuring, government policy largely concentrated on the restructuring of SMEs and improvement of responsiveness to market opening. Today, SME policy in Korea has eschewed protection of the domestic market for innovation and self-reliance through competition and cooperation.

Nowadays, the major policy tools aimed at starting and fostering SMEs are startups, venture business, high potential enterprise, shared growth, exports, business environment, technology, micro enterprises and traditional markets.

Meanwhile, Korean SMEs have continuously kept up with the rapidly changing environment. The Korean government's new focus is the promotion of small but globally competitive companies as the pillar of the economy. In addition to globalization, collaboration is being encouraged between large corporations and SMEs because the latter has greatly suffered under the dominance of Chaebol (conglomerates). Accordingly, building a sound corporate ecosystem and setting the proper market order have emerged as crucial issues.

1. Status of SMEs¹⁾

As of 2014, Korea had 3,542,350 SMEs that employed 14,027,636 workers. From the previous year, the number of companies rose by 126,487 and that of employees went up by 606,042. SMEs accounted for 99.9 percent of businesses and 87.9 percent of overall employment.

1) [Small and Medium Business Administration \(SMBA\) homepage.](#)

〈Table 1-1〉 Yearly SME Trends

		2010	2011	2012	2013	2014
No. of companies	Total	3,125,457	3,234,687	3,354,320	3,418,993	3,545,473
	SMEs	3,122,332	3,231,634	3,351,404	3,415,863	3,542,350
	Ratio(%)	99.9	99.9	99.9	99.9	99.9
No. of employees	Total	14,135,234	14,534,230	14,891,162	15,344,860	15,962,745
	SMEs	12,262,535	12,626,746	13,059,372	13,421,594	14,027,636
	Ratio(%)	86.8	86.9	87.7	87.5	87.9

Source: Statistics Korea.

Companies in wholesale and retail make up the biggest portion of SMEs (27.8 percent), followed by those in hospitality (19.8 percent), transportation (10.6 percent) and manufacturing (11.1 percent). In the number of employees, manufacturing, wholesale and retail, and hospitality account for 55.8 percent. Manufacturing has the most staff (24.5 percent), followed by wholesale and retail (18.4 percent), and hospitality (12.9 percent).

Comparing the industrial distribution between SMEs and large corporations, clear and notable differences are evident between the two sectors. First, industries having the most companies and staff differ from each other. In the case of SMEs, wholesale and retail and hospitality have the largest number of companies but manufacturing and wholesale and retail employ the most workers. On the other hand, manufacturing and business facility management and business support have the most companies and workers among large corporations.

Second, each industry's share and rank are greatly differ between large corporations and SMEs. In large corporations, most of the highly ranked industries have a large number of workers per business. On the other hand, the highest ranked industries among SMEs have a relatively small number of workers per business, the most notable being manufacturing and business facility management and support services. Manufacturing is the leader in the number of both companies and employees, and its number of workers per business is relatively large. Business facility management and support services, which has a lower share among SMEs, occupy a high share among large corporations and its number of workers per business is also relatively high.

To compare SMEs with large corporations in contribution to economic development, let's take manufacturing as an example.^{2) 3)} As of 2014, the number of manufacturing companies in Korea was 393,361 and that of employees 3,562,182, which amounts to 11.1 and 24.5 percent of all companies and employment in the

country, respectively. Manufacturing has a higher share in employment than in business establishment because it employs a large number of workers per business. Manufacturing SMEs also have a higher share of employment with 22.7 percent of all SME workers, while accounting for 11.1 percent of SMEs.

The number of SMEs in manufacturing is 392,665, or 99.8 percent of all manufacturers. The number of employees in SME manufacturing is 3,185,560, or 81.3 percent of all workers in the sector. Large corporations in Korea held relatively large shares of manufacturing companies and employment in Korea than those in other countries. Consequently, the share of SMEs in manufacturing is relatively low compared to that in other countries.

An interesting feature of manufacturing, however, is the far higher share of employment by large corporations than that of companies than any other industry, and the average size of a large corporation is far bigger than in other industries. The average size of a manufacturer is 10.3 workers, more than twice the industry average of 4.4. While the average size of a manufacturing SME is 8.3 workers, that of a large corporation in the same field is 1,060. The size gap between both types of companies in manufacturing is much greater than that in other industries.

The contribution of SMEs to Korea's economic development in the 1960s and 70s was obvious, but large corporations were responsible for more than half of the rises in employment, production and added value under a government policy centered on large corporations to foster the chemical and heavy industry. From the 1980s, however, SMEs expanded their share of overall employment to 81.9 percent thanks to stronger government support for SMEs. In the 1990s, the employment capacity of SMEs was more or less weakened due to the 1997-98 Asian financial crisis, but SMEs moved ahead of large corporations for the first time in contributions to production and added value.

In the 2010s, the SME ratio of contribution to employment was 58.8 percent, which showed their central role in creating jobs. Their contribution ratios in production and value added were 36.2 and 49.6 percent, respectively, showing the importance of SMEs to the Korean economy.

2) Suh, J. D. (2014), p. 64.

3) The Korean service industry is dominated by SMEs, which account for about 90 percent of jobs in the domestic service sector and operating profits. Many Koreans also run small businesses to provide for their families instead of achieving far-reaching success or contributing to the national economy. So the gap between large corporations and SMEs in the service industry is too big for comparison. This phenomenon is seen in nearly all other countries. For reference, productivity of service industry SMEs fell from 53.8 percent of that of large corporations in 1988 to only 30.5 percent in 2014, as the latter invested in labor-saving technology. For this reason, manufacturing is mainly used as a benchmark for comparing both types of companies.

〈Table 1-2〉 Contribution to Economic Development

			1960's (63– 69)	1970's (70– 79)	1980's (80– 89)	1990's (90– 99)	2000's (00– 09)	2010's (10– 12)	Total (63– 12)
Ratio of contribution	No. of companies	SMEs	94.0	94.8	99.4	102.2	101.0	97.9	99.6
		LEs	6.0	5.2	0.6	-2.2	-1.0	-2.1	0.4
	No. of jobs	SMEs	38.1	47.1	81.9	-6.8	128.7	58.8	77.9
		LEs	61.9	52.9	18.1	-93.2	-28.7	41.2	22.1
	Production	SMEs	26.5	32.2	45.7	50.3	47.8	36.2	45.7
		LEs	73.5	67.8	54.3	49.7	52.2	63.8	54.3
	Value Added	SMEs	25.7	35.7	47.7	50.5	50.8	49.6	47.6
		LEs	74.3	64.3	52.3	49.5	49.2	50.4	52.4

Note: 1) Based on companies with five or more employees; increase or decrease amount for given period.

2) The contribution ratio is the percentage of increase or decrease by SMEs (or large corporations) to the overall increase or decrease.

Source: Statistics Korea.

2. Perspective of SME Policy⁴⁾

SMEs are both diverse and complex and encompass many types. Typically, more than 99 percent of businesses in a country are SMEs, and in Korea, 99.9 percent of all businesses fall into this category. Certain advanced economies have a slightly lower proportion than this but it still exceeds 99.5 percent. In addition, SMEs are in a wide range of industries. The Standard Industrial Classification (international standard for industrial classification) established by the United Nations has 99 categories of business.

Considering the importance of SMEs, related policy is considered a multifaceted national goal. As seen in the definition and size standards of SMEs, however, the SME sector is a group of heterogeneous companies plagued by problems or difficulties in and out of the industry. The government certainly cannot and should not handle all of them, but is trying to tackle a substantial portion. This is why SME policy is intricately complex.

The large number and diversity of SMEs makes it tough to devise effective SME policy. A major problem is conflict between the official and economic perspectives of such policy. From the official perspective, support for SMEs should benefit a large number of them. From the economic perspective, however, the policy should

4) Oh D.Y. (2016), pp. 118–120. Suh J.D. (2014), pp. 161–162.

target specific SMEs with high growth potential.

That SMEs account for the vast majority of businesses in the Korean economy underscores the importance of understanding SME policy based on public policy goals. Political leaders face great pressure to devise SME policy that emphasizes protection and nurturing. For example, the government regulates fair trade by both large corporations and SMEs when needed. In addition, authorities strengthen policy support for SMEs for the purpose of social stability. Yet SME policy based on government planning is often inefficient and ineffective.

The economic perspective of SME policy, however, stresses results as its main priority. Achievements are measured based on a company's growth, sales and employment. In this respect, the government selects SMEs with the best potential for benefiting from policy for funding. This is because of the economic principle of effective economic distribution (effective allocation) of limited resources. The disadvantage of the economic perspective is that since results are the main criteria, the government's tendency is to choose large corporations over SMEs. Monetary support for each SME is relatively small given their high number, thus they receive little assistance. In addition, the majority of policies are politically influenced since politicians face immense pressure to adopt policies that quickly produce results for the sake of their reelection prospects. So a common and easy choice is for the government to pick large corporations as the targets of support so they can show results in a short time.

Another challenge is determining the terms of SME policy. Resources are limited and must be distributed effectively. If the budget to support SMEs was sufficient, no conflict would occur. Yet most developing countries lack adequate budget for SME support despite the need to meet their economic growth goals.

Thus the most effective action for countries in the early stage of SME policymaking is effective distribution of limited resources through careful selection and concentration. Selection and concentration form a way to provide intensive aid to industries and companies with high potential growth. For this to happen, the central government or state must employ a clear industrial policy of selecting sectors that can help the national economy. Then the focus should go toward supporting SMEs in the selected industries.

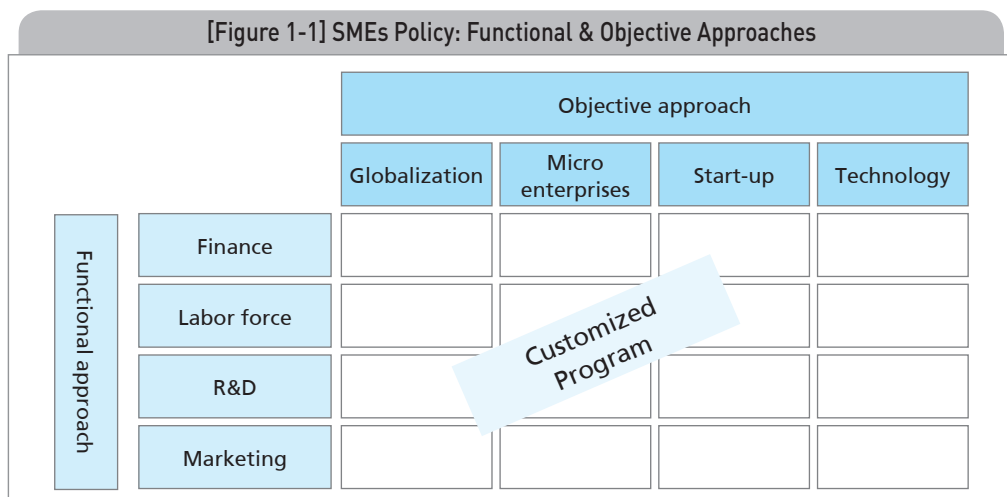
Deciding on selection and concentration as the basic paradigm for supporting SMEs poses challenges for governments. In general, the functional approach to support SMEs includes finance, human resources (labor force), technology (R&D) and sales channels (marketing). When Korea was devising industrial policy early in its economic development, each ministry was responsible for support in

its respective field. For example, the Ministry of Finance and Economy handled financial support.

As the Korean economy grew, however, the functional approach to assist SMEs spawned problems because the business environment for SMEs had changed. In other words, the role of SME policy differed from that in the past. Today, the Korean government focuses on policy objectives (targets) such as globalization (or export), micro enterprises (or self-employment), startups and technology.

For easier understanding, let's put the functional approach on a vertical axis and the target-specific approach on a horizontal axis (Figure 1-1). Under focused financial support, aid can differ for SMEs promoting globalization and startups, and this is true for the labor force as well. The personnel necessary for small businesses are low-tech workers but globalization requires those with high-tech skills staff.

Accordingly, the need for a customized support program is evident. The government first needs to narrow the scope of the policy target. As mentioned before, policy with little or no concentration leads to inefficiency given resource constraints.



Source: Oh D.Y. (2016), p.120

3. Evolution of SME Policy⁵⁾

Korea initiated its SME policy in the 1960s. For easier comprehension, the

⁵⁾ Small and Medium Business Administration (SMBA) homepage.

development period of such policy can be classified into three stages.

The first stage was from the 1960s to the mid-70s. This period was a time of business consolidation for export promotion, when the Korean economy was still in its infancy. Early that decade, Korea's industrial policy prioritized import substitution emphasizing the production of consumption goods. At the time, the focus was on the development of labor-intensive light industries and having SMEs manufacture daily items. As industrial growth served as the principal stimulus to economic development, the Korean government had to take advantage of economies of scale. So the foundation of the Korean conglomerate (or Chaebol) was strengthened over this period, while SMEs were put on the back burner.

The second stage was from the late 1970s to 80s. The main focus of Korean industrial policy shifted from light industry toward the high value-added heavy and chemical sector. Rising wage levels undermined the price competitiveness of the labor-intensive light industry, and this forced the government to consider the heavy and chemical industry as the economy's next growth engine. This sector's rapid rise led to the quantitative growth of SMEs that manufactured parts and materials consumed by the heavy and chemical industry, replacing imported parts and materials. SMEs also played a key role in localization of parts and components abroad.

Government support for SME activities fueled the active setup of startups and facility investment by SMEs, which facilitated the sector's rapid growth along with the national economy. On the other hand, business divisions appeared between large assembly companies and part-producing SMEs. So the government introduced more diversified SME policies such as those on correcting the imbalance caused by the dual structure, economic stabilization and upgrading the industrial structure.

The third stage began in the 1990s. Early that decade, the tendency of the Korean government's SME policy was to promote autonomy, an open market and competition. After the 1997-98 Asian financial crisis, with the Korean economy undergoing massive restructuring, this policy largely targeted SME restructuring and improvement of responsiveness to market opening. Today, Korea's SME policy has eschewed protection of domestic companies for innovation and self-reliance through competition and cooperation.

Nowadays, Korean SMEs constantly keep up with the rapidly changing industrial environment. The Korean government's new focus is the promotion of small but globally competitive businesses as the pillar of the economy. This entails fostering daring and innovative SMEs to maximize Korea's growth potential. Yet difficulties abound in globalizing Korean SMEs. According to a survey, the biggest obstacles

are lack of information, weak brand power and absence of overseas sales networks. The problem is more serious for larger SMEs or those with a high volume of exports, with most of them blaming lack of information on overseas markets and customers.

For the globalization of Korean SMEs, the Korean government urgently needs to provide support through information on markets and potential risks, and seek suitable responses and support measures if problems arise. Also, the government must actively expand the overseas marketing infrastructure and provide information on SMEs in target markets for them to thrive abroad. This is because during globalization, intellectual property rights, limited financing from overseas markets and meeting global standards for quality and distribution are likely to pose challenges.

Above all, the globalization of SMEs depends on securing differentiated competitiveness in technology and quality. In other words, maintaining competitiveness in technology and innovation through continuous R&D in a specific sector is the key to success in global value chains. SME globalization can be more effective when the experiences and infrastructure of companies active in overseas markets are integrated with their core competencies. SMEs need to stand out through not only technological prowess, but also utilization of business networks and business partnerships with companies in target markets. And SMEs should also fully employ the brand power of their partners to penetrate specialized or niche markets.

Hiring staff who possess creative ideas, prompt decision-making abilities and flexible thinking is vital for SMEs to gain a competitive edge in globalization. In a nutshell, a highly skilled and competent workforce able to plan ahead for products and services and possessing the experience and ability to adapt is crucial for the creation of competitive convergent products and reflecting new market needs.

In addition to globalization, the Korean government's new focus is collaboration between large corporations and SMEs. Because SMEs suffered mounting problems accumulated under a market dominated by large corporations, building a sound corporate ecosystem and market order is a crucial task. The government has adopted measures to protect SMEs and prevent large corporations from encroaching on the former's business areas. Most recently, the term "high potential enterprise was newly defined in late 2013, and a new definition and size standards of SMEs took effect from early 2015.

4. Major Areas of SME Policy⁶⁾

The major policy tools aimed at selecting and fostering SMEs are startups, venture business, high potential enterprise, shared growth, exports, business environment, technology, micro enterprises and traditional markets. A brief summary of each policy is below.

4.1. Startups: Leading Ideas and Technology for Startups

4.1.1. Fostering Technology and Knowledge-based Startups and Inspiring Entrepreneurship

The Small and Medium Business Administration (SMBA) of Korea runs a camp promoting positive ideas about startups and the program BizCool, which targets students from kindergarten to high school, to stimulate positive thinking on startups among children and youth. The SMBA also hosts lectures on startups and supports clubs, academies and leagues at universities encouraging start-ups to inspire college students to pursue entrepreneurship. Furthermore, special lectures on entrepreneurship are given by successful venture CEOs and youth business debates are held nationally to cultivate and spread the spirit of entrepreneurship among youths. To effectively seek new businesses in preparation for Korea's rapidly aging society, the SMBA manages a senior business plaza and senior startup schools for those retiring. It has also designated six organizations, including the Korea Venture Business Association, for reemployment of retirees.

4.1.2. Creating an Environment to Ease the Start-up Process and Fostering One-person Startups

The SMBA manages the so-called programs Startup Leading Universities and Startup Academies for Youth in each region to promote technology-based startups by searching for excellent tech entrepreneurs and enhancing their success rates. In addition, it manages sites that make test products and startup incubation centers to create an environment conducive to setting up startups. The so-called Infinite Imagination-based People's Start-up Project (Idea Audition) also advocates startups for the commercialization of people's ideas in tandem with the creative economy era. The Business Center for One-Person Startups and Smart Creation Center seeks to foster "one-person creative enterprises" and supports service providers that create high added value in such sectors as culture, green growth and health.

6) Small and Medium Business Administration (SMBA) homepage. Suh J. D. (2014), pp. 161–208.

4.2. Venture Business: Promoting Smooth Investment & New Startup Conditions

4.2.1. Creating a Fund Ecosystem for Venture Companies and Startups

To properly foster venture companies and start-ups, the SMBA has created the Angel Investment Matching Fund and Future Creation Fund as well as the Crowd Funding System and Expert Angel System. These funds and systems are geared toward resolving difficulties in attracting private funds to bolster investment in venture companies and startups. In addition, KONEX (Korea New Exchange) allows the easy collection of investment funds from small and medium-size venture businesses. The SMBA's M&A transaction information network is exclusively tailored for SMEs and venture companies, and supports tax benefits for technologically innovative M&As. First-generation venture companies that reinvest funds collected through sales of management rights also receive tax breaks to bolster venture companies and startups. And the SMBA's youth startup fund formed jointly with venture companies seeks to form a smooth fund ecosystem through the following process: establish startup → grow → collect investment → reinvest.

4.2.2. Promoting Venture Company Growth and Supporting Repeated Startup Attempts

The SMBA seeks the influx of highly qualified personnel into venture companies to help them grow into mid-size or large companies. It also helps their advances into the global market by supporting the global marketing of venture companies. Each year, the organization conducts "a detailed investigation into the state of venture companies" to understand the difficulties in managing their businesses and build a network for mutual cooperation and technology matching leading venture companies with newly established ones. To help those who failed in their first startups to try again, the SMBA offers a startup revitalization fund and experts providing turnaround consulting, from handling crisis symptoms to approval of corporate rehabilitation. In addition, the SMBA, in cooperation with Foundation Jaegi (jaegi means "comeback" in English): Revitalization Center for Strained Entrepreneurs, helps to turn a failed start-up into a learning experience by providing a turnaround curriculum in the form of a healing camp.

4.3. High Potential Enterprise (HPE): Removing Obstacles Impeding Growth of SMEs and HPEs

4.3.1. Promoting HPE Growth and Supporting Succession of Family Businesses

One of the SMBA's goals is to gradually reduce the scale of support in finance, taxation and labor to solve the growing pains occurring in the transition from SMEs to high potential enterprises (HPEs) by creating an exclusive fund for the latter. The so-called World Class 300 Program assists the technology, global advance and human resources of HPEs to foster their growth into world-class specialized companies. Businesses are selected to become global companies to enhance their international competitiveness. Furthermore, the SMBA has alleviated the burden of passing down family businesses deemed HPEs by preparing support for them to survive for 100 years. It has built a ladder for smooth growth under the following process: venture company → HPE → large corporation. This helps HPEs serve as a key driver of recovery of Korea's economic vitality and job creation.

The Korean government aims at promoting 300 world-class businesses. To this end, the selection committee of the SME Support Center selects SMEs that not only have the capacity to grow but also future growth potential. Applicants are screened under five procedures: 1) pre-requirements: quantitative scale; 2) evaluation: presentation and interview; 3) on-the-spot study and verification; 4) overall evaluation; and 5) final selection. The four criteria to evaluate applicants are exports, technology, investment, and entrepreneurship and job creation.

In 2015, the Korean government offered a support policy package for expansion in the global market to 181 businesses selected by the committee. The selected entities featured:

- Annual average sales: 155 million USD
- Annual average exports: 94 million USD
- Average ratio of export to sales: 58.4 percent
- Average ratio of R&D spending to sales: 7 percent
- Business types: electronics, parts of communication equipment, agrifood, knowledge services, textiles, pharmaceuticals.

4.3.2. Streamlining SME Regulations and Promoting Balanced Regional Development

The SMBA works to prevent the passing of regulations that threaten to excessively or irrationally burden SMEs with introducing and managing the SME Regulation

Impact Assessment System. Furthermore, the SME ombudsman systematically looks for and resolves or alleviates difficulties and irrational regulations that limit the business management of SMEs and micro-enterprises from their viewpoints. Furthermore, the designated special regions have been designated by regional governments to develop their own specialties, and searching for exemptions to regulations for regional specialty businesses seeks to bolster regional economies.

4.4. Shared Growth: Creating Conditions for Fair Competition of SMEs

4.4.1. Promoting Shared Growth Cooperation between Large Corporations and SMEs

The SMBA advocates shared growth between large corporations and SMEs to alleviate business polarization. To resolve the latter, the organization hosts procurement business meetings between large corporations and SMEs. Its so-called new product development business on condition of procurement advances supports SME development in line with the procurement demands of large corporations for joint technological development, as well as higher technological capacity by SMEs and consolidation of their sales routes.

4.4.2. Enhancing Monitoring and Prevention of Unfair Trade as well as Protecting SME Business Areas

The SMBA's business adjustment system seeks to prevent exacerbation of business difficulties experienced by micro-enterprises and SMEs due to the reckless advance of large corporations and helps them exercise their full competitiveness in a fair business environment. Furthermore, the SMBA has the power to require reporting of violations of the four laws falling under the jurisdiction of the Fair Trade Commission to combat unfair trade and price fixing. As such, the SMBA is striving to enact working guidelines such as preparing reasonable standards for reporting in line with enforcement of the rules. In addition, regular audits on consigned transactions seek to set a fair order for delivery transactions among businesses. The SMBA is also stepping up and improving its monitoring and prevention of unfair trade, such as eradicating illegal dropping of unit prices and protecting technologies held by SMEs, through expanding those subject to the punitive system of compensating damage and amending the Act on Fair Transactions in Subcontracting.

4.5. Exports: Fostering specialized and Globally Competitive Businesses

4.5.1. Enhancing SMEs' Export Capacity and Expanding Their Overseas Infrastructure

The SMBA promotes export growth and the expansion of the export base of SMEs through a program to enhance export capacity. It does this through hosting exhibitions abroad, dispatching trade missions overseas, managing export incubators and designating marketing and consulting companies in target markets as private networks to support SMEs from exporting their products to advancing into global markets. In addition, export support centers set up within SMBA regional branches offer one-stop assistance and resolution of difficulties faced by exporting SMEs. And the organization is also trying to help SMEs with problems in country-of-origin certification to maximize their use of free trade agreements (FTAs).

4.5.2. Supporting Expansion of Overseas Sales Routes for Global Companies

The SMBA manages the so-called Global Highway Program to transform in their early stages startups with great growth potential into globally competitive companies through strong support for R&D, marketing and export financing. In addition, more SME-exclusive stores have been set up to sell products through foreign distribution channels and a Korean Hall has been opened in global online shopping malls such as Amazon and eBay. Furthermore, the SMBA is building on- and offline support infrastructure abroad to promote the export of SME-made products through large Korean companies for home shopping that have gone global.

4.6. Business Environment: Providing a more Stable Climate

4.6.1. Expanding Demand of Korean Domestic Market for SME Products and Enhancing SMEs' Marketing Base

The SMBA manages a public procurement system to stimulate the procurement of SME products by the government and public corporations, and this offers stable sales routes to SMEs. The organization is also helping SME sales routes and marketing in the private sector through managing joint after-service call centers, holding procurement consultations linked with large distributors and developing

joint brands for SME products. In addition, stores exclusively for SMEs (e.g., Hit 500 Plaza) have been installed at key commercial districts and public facilities with numerous passers-by, and a selection of domestic demand-driven sales routes has been consolidated through helping SME products advance toward famous Korean home shopping businesses. Another SMBA project is fostering women-led businesses through startups and consolidating the sales routes of female entrepreneurs in addition to the advance of SMEs into the Kaesong industrial district of North Korea.

4.6.2. Providing Policy Financing to Promote SME Growth

Policy financing is mainly for long-term facility investment for startups and micro-enterprises, while credit guarantees mostly go toward working capital. The SMBA offers policy financing mostly for SMEs with high technology and business potential through evaluating technology and business as well as for SMEs that promise high job creation and potential as a future growth engine. The SMBA manages receivable insurance services for insurance payouts to protect SMEs from consecutive bankruptcies in the case of financially damaged SMEs with credit transactions. It also leads the recovery of the economy of the underprivileged in society through supplying pan-government special benefit guarantees and sunshine loans through regional credit guarantee foundations to small businesses and businesses with low credit.

4.6.3. Fostering Technical and Skilled Personnel Tailored for Each SME Field

To alleviate the chronic labor shortage of SMEs, the SMBA supports specialized vocational high schools, Meister high schools (e.g., Gumi Electronic Technical High School, Busan National Mechanical Technical High School and Chonbuk Mechanical and Technical High School) and technological academies, and offers a customized program to foster industrial-academic tech personnel to meet the demand of SMEs and raising employment. Simultaneously, the SMBA is trying to solve mismatches between labor supply and SME demand by creating the necessary conditions for the influx of highly skilled workers into SMEs, making long-term employment possible via connection with SME contract departments at colleges, improving awareness of SMEs, introducing a fund to reward the achievements of key SME staff and designating SMEs that foster competent workers.

4.7. Technology: Fostering SME Success Via Creative and Innovative Technologies

4.7.1. Enhancing SMEs' Capacity for Technological Innovation

An SMBA program strives to develop technologically innovative SMEs as part of its leading R&D program of promoting first mover and creative investment in promising technologies to enhance SME capacity. Furthermore, the organization is aggressively fostering SMEs in green growth as well as cutting-edge fusion and convergence technologies, which are rising as new growth engines, in addition to core manufacturing industries amid the rapidly changing environment for global technology. In addition, the SMBA is expanding the technological development base of startups in their initial stage and their creation of high added value through ICT convergence in tandem with the government's creative economy drive. As such, the SMBA's goal is to have globally competitive small companies grow through policies tailored for each stage of growth and innovative capacity.

4.7.2. Discovering and Fostering Innovative SMEs

SMEs are crucial to the Korean economy, enhancing technological capacity by strengthening national competitiveness and flexibly responding to global technological changes amid rapid shifts in the global economic paradigm. As such, the SMBA since 2001 has searched for and fostered technologically innovative SMEs and comprehensively linked them to support projects to raise their global competitiveness. Since 2006, this project has been expanded to not only find and foster SMEs with business innovation in technology but also their marketing and customer services, as well as providing the infrastructure for stable technological development.

4.7.3. Supporting Technological Development Through Industrial-Academic Think Tank Cooperation and Their Joint Use of Research Equipment

The SMBA encourages the establishment of corporate research centers through industrial-academic-think tank cooperation so that they can jointly develop technologies by using cutting-edge research equipment and personnel of universities and public think tanks. The intended beneficiaries are mainly SMEs that find it hard to set up independent corporate research centers as well as those with weak technological capacity. Furthermore, the SMBA offers free use of high-end testing and research equipment at regional SMBA branches to help regional SMEs facing a scarcity of testing equipment. In addition, the SMBA has supplemented the R&D equipment at its centers for digital design innovation support and test

product manufacturing support to enhance manufacturing capability and design development of test products and support the technological innovation of regional SMEs.

4.7.4. Ensuring Protection of SME Technologies

The SMBA supports expert consulting in each field (e.g., security and laws) to protect key technologies held by SMEs and prevent their unauthorized dissemination. A technology deposit system guarantees the stable use of technologies between interacting businesses and the safe storage of technological data. In addition, it built and manages the SME Technology Protection Center to prevent and respond to technological infringement from external cyberattacks and DDOS (distributed denial of service) through email and other electronic means. The organization also backs the building of technological and physical security solutions (e.g., network server security, CCTV, and entry and exit management systems) needed for the security environment of each business.

4.8. Micro-enterprise: Helping Well-prepared Startups of Micro-enterprises and Consolidation of Their Autonomy

4.8.1. Encouraging Successful Startups

The SMBA has built a business district information system to provide useful information for startups, such as average revenue, number and flow of passers-by, and the density of major business districts, thus raising the prospects for successful startups of micro-enterprises and trouble-free advances into new business lines. Other useful tips include startup know-how and store management through 24-hour broadcasting exclusively for micro-enterprises (e.g., yes-TV). A micro-enterprise startup school provides tailored training in startups and the provision of start-up service training linked to policy funds. In addition, experts such as skilled masters are dispatched to each store to analyze their situation and suggest business tips afterwards.

4.8.2. Enhancing Business Management Capacity and Expanding Safety Network of Micro-enterprises to Support Livelihood

The SMBA has introduced several systems including a mandatory temporary halt to streamline a business reconciliation system. The aim is to limit the excessive advance of large distribution businesses into mom-and-pop business districts, while also pursuing mandatory temporary closures of large supermarkets. The SMBA supports the collaboration of micro-enterprises operated for livelihood support,

such as bakeries and laundries, by pushing for the formation of cooperatives and fostering 10,000 “Nadle shops,” or modern stores that are improved versions of mom-and-pop supermarkets. Small and mid-size distribution and logistics systems integrating ICT are also under development. In addition, the SMBA offers opportunities for SMEs to grow as healthy businesses through franchise level assessment and support for their participation in corporate briefings and exhibitions to promote their advances into overseas markets. The SMBA also provides surety support services, deductions for micro-enterprises and training for business conversion to help corporate turnaround and minimize risk of business failure.

4.9. Traditional Market: Creating Traditional Markets Popular with Consumers

4.9.1. Building a Convenient and Safe Shopping Environment

The SMBA is modernizing facilities at traditional markets through actions such as building convenience facilities such as parking lots, arches, roofs and entry roads and the repair of old facilities. The goal is to promote economic revitalization and attract more customers and revenue to such markets. In addition, to create an environment for quick and convenient shopping at the markets, the SMBA has introduced a smartphone payment system and operates mobile shops in collaboration with private mobile carriers. Projects to stimulate business districts and support for shopping and delivery services are also promoting the shared growth of the markets and their surrounding districts and raising convenience. Fire safety analysis is being conducted to ensure safe traditional markets.

4.9.2. Making Traditional Markets More Attractive

The SMBA is turning traditional markets into attractive places for shopping, consumption and merchandise by promoting their transformation into culture-tourism venues featuring the unique culture of each area. In addition, the diverse marketing activities include performances, sales and trains for touring traditional markets, as well as the annual Expo of Excellent Markets Nationwide to widely publicize leading traditional markets. The so-called Traditional Market Onnuri Gift Certificates can be used at all markets nationwide to help raise revenue and attract more customers. And a merchant university allows merchants to enhance their competitiveness in addition to improving the quality of their services.

5. Legal Framework for SMEs⁷⁾

5.1. Framework Act on Small and Medium Enterprises

The purpose of this law is to stipulate fundamental matters on direction setting for the SME sector and measures for fostering such companies. The aim is to stimulate the creative and independent growth of SMEs, upgrade their industrial structure and facilitate balanced economic development.

This act consists of the following articles:

- Scope of SME Entrepreneurs
- Duties of Government
- Duties of SME Entrepreneur
- Encouragement to Start Business and Spread Entrepreneurial Spirit
- Rationalization of Management and Improvement of Technology
- Securing Markets
- Cooperation among SMEs
- Conversion of Business Structure
- Encouragement of Fair Competition and Mutual Growth: The government shall take necessary measures to ensure that SMEs cooperate and fairly compete with businesses other than SMEs.
- Protection of Business Areas: The government shall take necessary measures to ensure that SME entrepreneurs can smoothly secure their business areas in the fields appropriate for companies of such size
- Establishment of Mutual Aid System
- Organization of SME Entrepreneurs
- Facilitation of Globalization
- Support for Securing Workforce
- Measures for Small Businesses
- Fostering of SMEs in Provinces
- Legislative and Financial Measures
- Financial and Tax Measures
- Formulation of Plans for Fostering SMEs and Annual Reports
- Survey on State of SME Entrepreneurs: The government shall conduct an annual survey to grasp the status of activities, funding, human resources and management of SMEs on a regular basis, and shall publish the results thereof. In such cases, the government shall, if necessary to deal with a matter similar or related to the relevant status survey, carry out an integrated survey by combining each of the following surveys:

⁷⁾ [Small and Medium Business Administration \(SMBA\) homepage.](#)

- Setup of SME Ombudsman Program
- Presentation of Opinions
- Administrative Assistance
- Designation of Specialized Think Tanks: The chief executive of the SMBA may designate and operate a think tank specializing in research and investigation necessary to formulate policies for SMEs. He or she may contribute to or subsidize the think tank in question to cover the expenses incurred in conducting research and investigation within budgetary limits
- SME Week
- Presentation of Verification Documents
- Administrative Fines

5.2. Act on Promotion of Collaborative Cooperation between Large Corporations and SMEs

The purpose of this law is to sharpen the competitiveness of conglomerates and SMEs by encouraging win-win cooperation between them and help them attain shared growth by resolving the polarization between conglomerates and SMEs with the aim of laying the foundation for sustainable economic growth.

This act consists of following articles:

- Definitions
- Basic direction of policies to facilitate win-win cooperation between large corporations and SMEs
- Development of master plans to facilitate win-win cooperation between conglomerates and SMEs
- Formulation of implementation plans to facilitate win-win cooperation between conglomerates and SMEs
- Fair distribution of win-win cooperation results
- Facilitation of technological cooperation between conglomerates and SMEs
- Expansion of human resource exchanges between conglomerates and SMEs
- Capital participation of conglomerates in SMEs
- Promotion of cooperation between conglomerates and SMEs in green management
- Special cases on prohibition of unfair transactions
- Survey of state of win-win cooperation between conglomerates and SMEs
- Calculation and publication of win-win cooperation index between conglomerates and SMEs
- Selection of and subsidies for exemplary companies conducting win-win

cooperation

- Consultative council of commissioned businesses
- Narrowing salary gap between conglomerates and SMEs
- Facilitation of cooperation between public institutions and SMEs
- Setup of foundation for cooperation between conglomerates and SMEs
- Issuance of written agreement
- Payment of prices of delivered goods
- Rationalization of inspections
- Quality guarantees
- Request for measures to Fair Trade Commission
- Mediation of disputes
- SME business coordination council
- Recommendations and orders related to business coordination
- Cancellation of temporary suspension and order for coordination
- Transfer of conglomerate's business to SMEs
- Support for SMES taking over conglomerate business lines
- Delegation and empowerment of authority of duties
- Penal and joint penal provisions
- Fines for negligence

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Finance: Credit Guarantee System

1. Overview of Financing Policy and Institutions
2. International Review of Credit Guarantees
3. Credit Guarantee System in Korea
4. Policy Implications

Finance: Credit Guarantee System

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Summary

The global economy is stuck in a downturn as forecasting economic trends is growing more difficult, and to make matters worse, there is a high possibility of a double dip recession. To overcome the global economic crisis, many countries are trying to boost domestic consumption by implementing policy measures such as expansion of fiscal spending and injection of public funds. They are also working on a range of international cooperation plans to stimulate the economy and prevent the spread of the European crisis, but this is not expected to induce economic recovery in a short period of time.

Rapid changes to economic conditions require a shift in policy measures toward fostering SMEs, which are the cornerstone of the economy. SMEs have played major roles in job creation, technological innovation and domestic market expansion, yet many confront difficulties in raising funds because of lack of collateral. Moreover, barriers to SME financing are expected to worsen due to the breakdown of global finance systems resulting from the economic slowdown. In this situation, further emphasis is needed on the roles of the credit guarantee system, which helps SMEs achieve smooth funding supply from the financial market. Against this backdrop, the credit guarantee program is widely recognized as a highly effective policy measure to support SMEs all over the world. In Korea, this program has been a major axis in SME financing over the last 35 years since the introduction of the Korea Credit Guarantee Fund (KODIT) in 1976.

This report focuses on the innovation efforts of country-specific and regional credit guarantee institutions in the new financial environment. The researchers collected, compared and analyzed the research findings published by international organizations and academic institutions as well as the materials of each guarantee institution. This paper consists of three parts. Part 1 introduces the theories and economic functions of the credit guarantee system in operation across the world and compares and analyzes them. Part 2 reviews Korea's experience and active implementation of the credit guarantee system. And Part 3 has the KSP's policy recommendations.

1. Overview of Financing Policy and Institutions

Like R&D and human resource development, financing is a significant obstacle for smaller businesses. Common problems affecting SME financing include information asymmetries between entrepreneurs and investors, high levels of risk and transaction costs, and lack of collateral. Exacerbating these issues is a host of institutional factors and demand-side constraints such as lack of protection for creditors, deficiencies in information infrastructure, bad quality of lending targets and lack of financial competence.

Korea's support policy and institutions for SMEs have undergone many changes. The period between 1960 and the late 80s was dedicated to crafting an institutional framework to support SMEs alongside large corporations and heavy industries. The SME Banking Act of 1961, which established an SME bank to financially sponsor smaller companies, marked the beginning of Korea's credit guarantee system. Industrial Bank of Korea (IBK), set up in 1961, was given permission in 1964 to extend guaranteed loans up to 10 times the amount of Korea's Credit Guarantee Reserve. In 1967, the SME Credit Guarantee Act replaced the Credit Guarantee Reserve with the Credit Guarantee Fund. Unlike the reserve, the fund was designed to promote loans by providing guarantees directly to SMEs as opposed to merely covering losses.

The Presidential Emergency Decree on Economic Stability and Growth, enacted in 1972 to stabilize the Korean economy, created credit guarantee funds for all financial institutions except the National Agricultural Cooperative Federation and National Fisheries Cooperative Federation. All licensed businesses were deemed eligible for guarantees, and to secure necessary capital, institutions with public funds made contributions equal to 1/200th the size of loans. The presidential decree was soon followed by the Exporter Credit Guarantee Act of 1972, which provided guarantees to exporters, and the Credit Guarantee Fund (CGF) Act of 1974, which

sought to reduce inefficiency by integrating the country's various guarantee funds under a single, independent institution. The latter act effectively abolished the SME Credit Guarantee Act and Export Credit Guarantee Act, and in 1976, the Korea Credit Guarantee Fund (KODIT) assumed responsibility for executing credit guarantees. All guarantees were covered by KODIT until the Act on Financial Support for New Technology Projects established Korea Technology Finance Corp. (KOTEC) in 1989. The last major structural change to Korea's guarantee system, meanwhile, came in 1996, when regional credit guarantee foundations were formed to strengthen support for provincial SMEs.

The late 1980s to late 90s were characterized by rapid economic growth and corresponding expansion in financial support. The Asian financial crisis of 1997-98, however, precipitated major changes to the structure and methods of SME support. The use of guarantees and direct loans as counter-cyclical instruments grew as a coping mechanism, yet after Korea recovered, this increased level of support hindered the impact of public policy and development of private financial intermediaries. The emphasis placed on protecting domestic industries and expanding financing volume, which began in the late 1980s and was reinforced under crisis conditions, consequently shifted toward raising competitiveness, efficiency and quality of support. Redundancies in Korea's policy instruments were identified and public support institutions began distinguishing themselves from their private sector counterparts. KOTEC, for instance, developed a technology appraisal system to guarantee loans to innovation-driven SMEs in a more efficient manner. Additionally, sectional divisions between KOTEC and KODIT were introduced to prevent SMEs from receiving aid from both organizations.

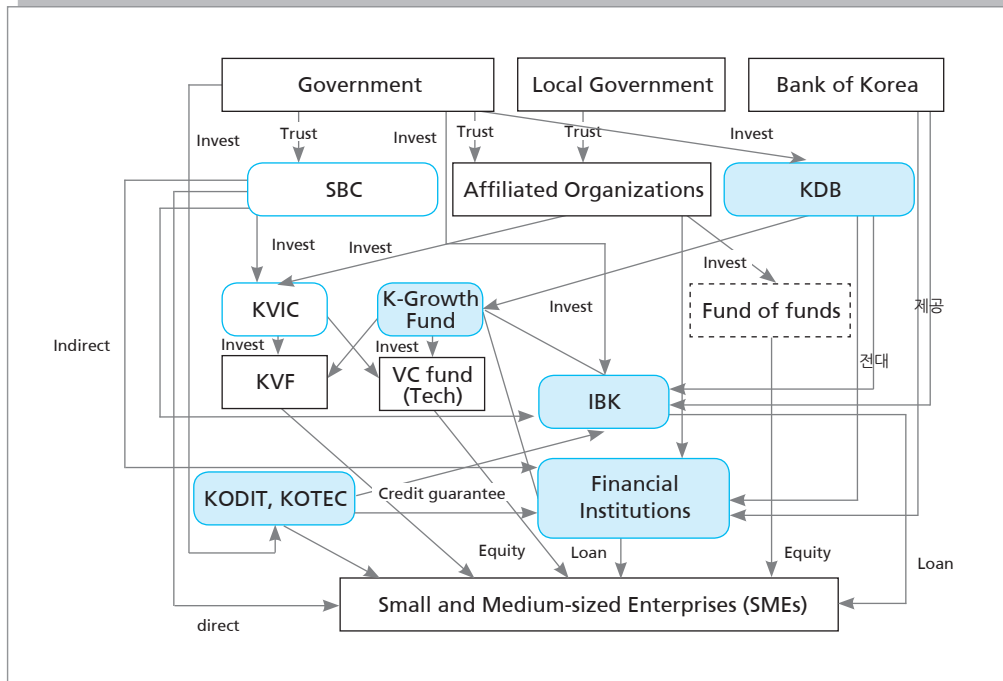
In the wake of the 2008 global economic crisis, Korea acknowledged that its approach to industrial development, which had mainly centered on large corporations, suffered from problems such as unfair transactions and diminished trickle-down effects. So an SME-driven economic paradigm proposed in 2010 has emerged as the centerpiece of Korea's political agenda. Other recent developments include efforts to set up a comprehensive data management system and diagnosis-based approaches to financial support.

Korea's Small and Medium Business Corp. (SBC),¹⁾ a non-profit, government-funded organization, was founded in 1979 to assist the growth and development of SMEs. Though its role in supporting science, technology and innovation has been briefly mentioned, the agency commands an importance that extends beyond science and technology. The SBC's financial programs help fund a wide range of

1) The SBC is entirely under the control of the SMBA. The latter gets all of its budget from government funds for SME support program then transfers the bulk of its budget to the SBC. The latter implements programs and budgets provided by the SMBA, which generally supervises the SBC.

operations such as business expansion, development of new products and business restructuring. Financing is primarily provided as loans. Non-financial assistance, meanwhile, includes services such as consulting, training, marketing and global cooperation.

[Figure 2-1] Public SME Finance System in Korea



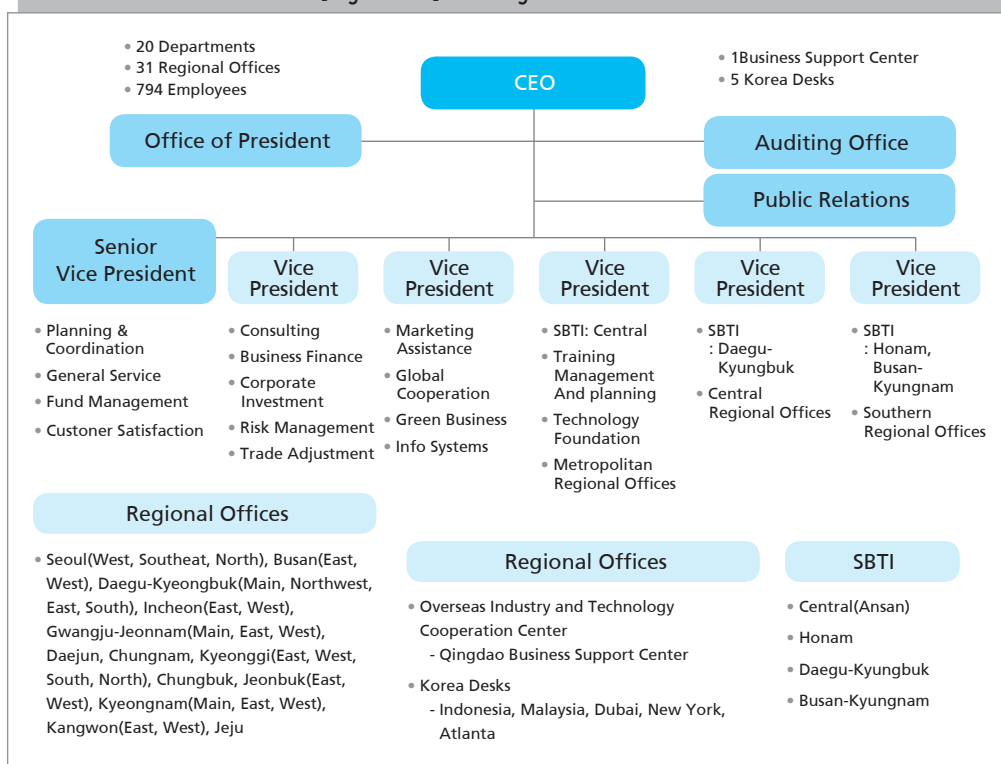
SBC loans are granted as either indirect policy loans, which come from banks, or direct policy loans, which are administered by SBC branches. Since reliable information on SMEs and micro-enterprises is often nonexistent, the SBC has had to contend with a large assortment of credit grades. Its financial support programs have also increasingly targeted smaller and younger businesses, leading to a high proportion of unsecured loans.

Indirect loans, which have been administered since 1979, are funded by bond issuances. The government covers reverse margin losses resulting from interest rate gaps between loans and bonds. The management costs and default risk borne by banks are compensated by the SBC at the rate of 1 percent. When SMEs apply for an indirect loan, the SBC issues a certificate for the loan to be disbursed by banks at a pre-designated interest rate following a summary credit review.

Notwithstanding a lower interest rate, indirect policy loans suffer from two drawbacks. This type of loan is perceived as collateral based, a trait that many

SMEs find unappealing, and banks consider the 1-percent margin of compensation unattractive. These factors, along with the Asian financial crisis and restructuring of financial markets, have caused the percentage of loans conferred by SBC offices to rise dramatically. While direct loans accounted for merely 5 percent of all loans in 1995, this figure shot up to 52 percent in 2012 and was estimated to exceed 60 percent in 2013. The SBC manages all aspects of the application process for direct policy loans, which includes credit reviews, technology evaluations and loan disbursement. A dearth of information on many companies has also necessitated on-site examinations, and consequently, the SBC now operates two business units, three regional headquarters, and 31 nationwide branches.

[Figure 2-2] SBC Organizational Chart



Three institutions handle loan guarantees in Korea: KODIT, KOTEC and regional credit guarantee foundations. Outstanding guarantees made by KODIT were valued at KRW 47,333 billion and accounted for 60.7 percent of all guarantees in 2010. KOTEC and regional credit guarantee foundations accounted for 22.3 and 17 percent of guarantees, respectively

The approval process for guarantees usually depends on several factors. Applications for guarantees not involving external financial institutions (e.g.,

guarantees on tax payments and corporate bonds, performance guarantees and guarantees as collateral for commercial transactions) are presented directly to KODIT or KOTEC. Those requiring financing from an external institution (i.e., guarantees for loans, leases or trade-bill acceptances) are submitted to the institution in question. In addition to preliminary screening of documents and on-site examinations, KODIT's guidelines necessitate a credit review before a guarantee can be approved. The method of review differs based on the amount requested.

If a business defaults on a guaranteed loan, KODIT or KOTEC performs its obligation unless creditors are deemed to be negligent or the amount demanded is judged as inappropriate. For certain guarantees, however, a "cooling-off period" is permissible before subrogation payments are made; over this time, creditors must conduct the same debt collection activities that would apply to their own loans. Moreover, the acts governing KODIT and KOTEC differ from Korea's civil code when specifying the scope of payment of guarantee obligations.

KODIT is a non-profit financial institution possessing the characteristics of a public service corporation. As stipulated in Article 1 of the CGF Act, KODIT's mission is to lead balanced national growth by guaranteeing the liabilities of promising SMEs. The government appoints and supervises KODIT's management, and as of March 2011, the organization consisted of four divisions, 11 departments, eight regional headquarters and 99 branches. The Board of Policy is KODIT's highest decision-making body.

KODIT has no shareholders, and since guarantees are mostly sought by businesses with insufficient collateral, maintaining a stable financial base is essential to preserving organizational credibility. The necessary capital is mainly sourced from the government, financial companies, companies and business associations. The GCF Act contains provisions mandating regular contributions from banks and government, and since contributions are donations under Korea's civil code, donors lack the right to dividends payments or assets. Government contributions are determined each year according to KODIT's operating budget for projects. Bank contributions are calculated on balances for certain loans at a rate not exceeding 3 percent per annum, and a new program encourages lower subrogation rates when calculating contribution rates.

〈Table 2-1〉 Mandatory Contribution Rates for KODIT

Credit ratings	Guarantee utilization period of up to 10 years	Guarantee utilization period of over 10 years
S1	50%	50%
S2-S3	70%	65%
A1-A4	75%	70%
B1-B3	80%	75%
B4-E3	85%	80%

While corporations also contribute to KODIT, their donations are not mandatory and their share of overall contributions is comparatively small. In response to KODIT's efforts to expand and diversify its capital base, large corporations have recently given donations in exchange for guarantees provided to their subcontractors. With a stable inflow of funds from public and private sources, KODIT's leverage ratio was between 7.3 and 8.5 from 2006 to 2010.

Partial guarantees, which cover risk of loss borne jointly by KODIT and financial institutions at a specified ratio, were introduced while Korea was recovering from the Asian financial crisis in 1998 to reduce moral hazard in Korea's financial system. Though partial guarantees were initially offered by designated guarantee institutions at rates of 70-80 percent, KODIT began to directly provide partial guarantees in 1999, and a decision was made in 2006 to base coverage ratios on credit ratings and utilization periods. For renewal and extension of partial guarantees approved before 2006, coverage ratios were reduced 5 percent.

〈Table 2-2〉 Standard Coverage Ratios

Credit ratings	Guarantee utilization period of up to 10 years	Guarantee utilization period of over 10 years
S1	50%	50%
S2-S3	70%	65%
A1-A4	75%	70%
B1-B3	80%	75%
B4-E3	85%	80%

While most guarantees by KODIT and KOTEC are granted directly, KODIT has signed agreements to allow a number of banks (e.g., IBK and Kookmin) to provide guarantees on KODIT's behalf. Notwithstanding the importance of allowing

convenient access to guaranteed loans, however, KODIT's stance toward these entrusted financial institutions has been restrictive as a whole. The limit for indirect guarantees was increased from KRW 20 million to KRW 30 million in 1980, and subrogation tasks were transferred from banks to KODIT in 1996. The system has also had its share of problems. MK Business Daily, a major business newspaper in Korea, criticized indirect guarantees in 1993 based on bankers' failure to properly conduct credit reviews and the ambiguous division of responsibilities between banks and KODIT.²⁾

KOTEC, an agency with 1,072 employees, two technology appraisal agencies and 51 technology appraisal centers, provides guarantees to high-tech SMEs. Accordingly, though KOTEC's offerings are not limited to loans for technological development and commercialization, it is Korea's largest organization for SME technology financing.

When SMEs apply for a loan guarantee from KOTEC, a technology appraisal is performed and guarantees are approved for companies with a credit rating of "B" or higher. Nominally speaking, KOTEC has always accorded preferential consideration to technology-related factors under the Technology Preferential Guarantee Program. Its credit rating system, however, was fundamentally similar to those used by other guarantee institutions until the introduction of the Kibo Technology Rating System (KTRS) in 2005. The system has orchestrated a substantial reduction in default rates, a remarkable feat since KOTEC targets a particularly risky subset of companies. The capital needed to cover KOTEC loans is obtained from the government and fees are paid by companies and financial institutions for KOTEC's services. In 2010, however, non-governmental sources fully supported KOTEC operations.

2. International Review of Credit Guarantees

2.1. Overview

2.1.1. Limited Access to Formal Finance

SMEs are widely known as the driving force of the economy. They are considered the solution to problems such as youth unemployment, industrial restructuring and income inequality. Despite the importance of SMEs in the economy, their potential to contribute to economic development is restricted due to limited access to formal financing. Four major reasons are said to cause the disadvantages SMEs face in the financial market: high administrative costs of small-scale lending, asymmetric

2) Refer to Moral Hazard in 2.1.2.

information, high risk perception and lack of collateral.

The fixed costs of lending make small-scale credit more expensive than large-scale credit. In other words, the larger the loan, the lower the unit cost of extending credit. Another factor that impairs SME lending is asymmetric information, which refers to the situation where borrowers have more information than lenders about their projects and willingness to repay. Due to asymmetric information, lenders cannot tell who is better and this creates the two main problems of adverse selection and moral hazard. Adverse selection deteriorates the quality of loans by allowing borrowers to choose loans with higher risk. Moral hazard, which is related to the problem of principal agency, also erodes the quality of loans because borrowers (agency) are tempted to shift to riskier projects without permission from lenders (principal).

Business size is associated with the default rate. Generally, the smaller the entity, the higher the default rate. The higher default rate of small companies is often blamed on their vulnerability to economic fluctuations and lack of financial and human resources. Banks rely more on the collateral of borrowers than the cash flow they create. Bankers often perceive that pledging assets is a signal that secures the quality of borrowers' projects or their intention to repay loans. These factors, individually or collectively, aggravate SMEs' access to formal financing and restrain their development potential. Many governments fear that such limited access to finance by SMEs eventually hinders economic growth.

2.1.2. General Credit Guarantee Systems

Credit guarantee programs have seen global popularity recently. The rationale for such programs is that when the financial system fails to work properly, SMEs are deprived of opportunities that allow them to contribute to economic development. Regardless of a nation's level of economic development, weak links such as startups and SMEs are blocked from access to formal financing. With a credit guarantee system, however, a government can remove the credit restriction problem of weak economic participants. A credit guarantee system alleviates the risks associated with small-scale lending and helps banks provide loans to borrowers with low access to credit. A credit guarantee is favored over other traditional policy tools such as direct loans or subsidies because its market orientation tops that of any other financial policy tool.

1) Purpose

The credit guarantee system has a variety of purposes, with the one attracting the most attention being easier expansion of loans to SMEs. Other purposes include

mitigating lending conditions such as interest rates and lowering economic and social tension. Such a system ultimately aims to encourage long-term changes in the behavior of participants such as private financial institutions and SMEs. As explained above, banks, especially those in developing countries, are usually wary of lending to start-ups and SMEs. The credit guarantee system encourages banks to find more ways to create sustainable profits from SME lending and thus can change attitudes toward SMEs. Credit guarantees are provided through reviews of credit, earnings and future cash flow rather than borrower collateral. So the credit guarantee program enables businesses to focus on repaying unpaid loans, paying taxes on time and improvement of the income structure.

2) Performance Evaluation

In most countries with a credit guarantee system, performance evaluation considers three aspects: outreach, additionality and financial sustainability.

Typical indicators for estimating outreach are the amount of guarantees newly provided, outstanding guarantee balance and the number of businesses supported. In addition, other indicators such as the percentage of credit guarantees to GDP and weight of guaranteed loans out of all SME loans are also used in international comparisons of credit guarantee outreach.

Additionality measures the qualitative factors of credit guarantee supply and refers to the size of additional credits that would have been unavailable without a credit guarantee. This indicator is often measured with added value, increase in production and profitability of guaranteed businesses. Another measurement method is to compare the financial performance of a business with or without a credit guarantee.

A credit guarantee institution should manage financial sustainability indicators to monitor the possibility of financial distress. Typical indicators include ratios of credit guarantee default and subrogation payment. The leverage ratio is defined as the multiple calculated by dividing the outstanding guarantee balance by capital. A guarantee program needs a risk management system to manage these indicators to improve its long-term sustainability.

3) Moral Hazard and Market Distortion

Though a credit guarantee system is useful for resolving a host of financing problems, two main issues should be considered in running the system. First, the prevention of moral hazard is critical for participants in the credit guarantee system. Second, critics of credit guarantees claim that they might distort private markets.

Moral hazard occurs to all participants in a credit guarantee program, namely guarantee and financial institutions and businesses. As moral hazard lowers the credibility of a credit guarantee program, it can mean the difference between success or failure. So the operator of the program should set up a system for preventing moral hazard.

In general, demand for guarantees exceeds supply. This situation thus breeds the possibility of corruption because a guarantee institution might abuse its dominant position over its clients. Another danger is the threat of a guarantee decision not being made by experts but those with limited expertise. To prevent these problems will require an objective and transparent screening process, a pool of experts with the proper expertise, and an independent and objective supervision and monitoring system.

Moral hazard of financial institutions tends to occur when credit guarantee institutions take on all the risk of guaranteed loans. When such institutions bear no liability for guaranteed loans, they tend not to pay sufficient attention to credit analysis and assessment. This attitude often leads to a high ratio of guarantee default. So most countries operate a partial guarantee system in which guarantee and financial institutions jointly share the risks of guaranteed loans.

The threat of moral hazard of the business receiving a guarantee is also significant. Submitting doctored accounting materials to obtain a credit guarantee or securing a loan with no intention to repay will inevitably result in a high default ratio. To prevent this, the following methods are normally used. First, collateral should be obtained when a credit guarantee is provided. This is an essential safety device, particularly because of the notion that a credit guarantee is like a government subsidy and thus not necessarily subject to repayment. Second, guarantee fee rates should be differentiated according to a business's credit rating. And third, debtors must be thoroughly aware that loan default will deny them of economic opportunities later.

One argument says credit guarantees raise the threat of financial market distortion. If financial institutions depend on credit guarantees too much, this will discourage them to make proper efforts to explore new markets and accordingly hinder the advancement of private financial markets. Another argument claims that credit guarantees could delay SME restructuring. For instance, a guaranteed loan could help a marginal business that deserves expulsion from the market to survive, compromising the market's self-cleansing function. Among the methods used to prevent these side effects, one is for governments to set annual goals for guarantee provision to prevent excessive guarantee supply. Another suggestion is the introduction of a graduation program for credit guarantee to induce

repayment by long-term users.

2.2. International Comparison of Credit Guarantees

2.2.1. Type of Credit Guarantee Programs

Credit guarantee programs can be roughly classified as either that for mutual guarantee or public guarantee. Public guarantee programs can be further broken down into two categories: Type I and Type II. Besides the guarantee programs mentioned above, other types of such programs include privately owned guarantee corporations and international guarantee programs operated by global agencies. This paper will focus on the first two types of programs as they account for the majority of guarantee programs worldwide.

〈Table 2-3〉 Comparison of Credit Guarantee Systems by Type

	Mutual guarantee	Public guarantee I	Public guarantee II
Operator	Company / group	Government	Government
Guarantee recipient	Member company	Unspecified	Unspecified
Reputability	Low	High	Medium
Guarantee amount	Low	High	Medium
Credit check / Guarantee reviewer	Guarantee agency	Guarantee agency	Entrusted bank
Utilization	Medium	High	Low
Region	Europe	Asia	US

1) Mutual Guarantee Program

The mutual guarantee program is the oldest form of modern credit guarantees. Private societies formed by member companies provide guarantees to financial institutions for members. A mutual guarantee society is either an independent legal entity or non-profit organization. Though private in nature, the societies receive financial support mostly from their governments.

A core advantage of this system is that member surveillance mitigates problems arising from asymmetric information. This is an easier form of credit guarantee than other types as members audit and review potential borrowers or collect bad debts. The characteristics developed from mutual guarantee practices contain a small guarantee amount per company. To overcome this, countries like Germany have adopted a policy in which the central and regional governments compensate losses.

Most countries that have adopted the mutual guarantee program are mostly in Europe such as Germany, Italy, Spain and Switzerland. Thanks to recent technical assistance from European countries, many Latin American nations have also adopted the system. Italy and Germany have developed their own mutual guarantee programs. Germany, in particular, in the 1970s established a state-supported guarantee bank system (*bürgschaftsbanken*), thereby strengthening the public role in the system. In Italy, the mutual guarantee system is characterized by the relatively small *Confidis*. Since 2000, efforts have gone toward turning *Confidis* into guarantee banks under the umbrella of Italian banking law. The German *bürgschaftsbanken* has evolved from a guarantee society (1930s) into a guarantee union (1950s) and finally into a guarantee bank (1970s). The German government introduced a strong public support system for *bürgschaftsbanken* with low-interest loans and counter guarantees. The systems of the two countries can be compared as follows:

〈Table 2-4〉 Comparison of Major Features

	Italy vs. Germany	Notes
Contribution structure	Closed < Open	Contributions to be made when accessing guarantee service (Italy)
Public role	Strong < Very strong	Government contribution rate (counter guarantee) : 40–45% (Italy), 52% (Germany)
Mutual nature	Strong > Slightly weak	Mutual, joint guarantee by members, joint loss at default (Italy)
Integration	Very weak < Very strong	800 <i>Confidis</i> (Italy), 16 <i>bürgschaftsbanken</i> /16 states (Germany)

2) Public Guarantee Program: Type I

Type I of the public guarantee program, which is widespread in Asia, provides guarantees via an independent credit guarantee institution usually set up by the government. A public institution for this purpose is an intermediary to bridge the credit quality gap between a loan-seeking company and the financial institution providing the loan.

Financing for guarantees is mostly dependent on the contributions or investment by the government or public institutions such as a central bank. Because the public sector, explicitly or implicitly, assumes the final responsibility of fulfilling guarantee obligations, this system is more reliable than others of its kind and thus used by many countries. Autonomous public institutions provide guarantees, and this makes the program more systematic than other forms. The downside, however,

is the high operating cost. This program is used by Korea, Japan, Taiwan and countries in Southeast Asia.

〈Table 2-5〉 Public and Mutual Guarantee Systems by Interested Party

	Public Guarantee (Korea)	Mutual Guarantee (Italy)
Government	<ul style="list-style-type: none"> · Responds to economic downturn with guarantee. · Relatively high level of allocated budget 	<ul style="list-style-type: none"> · Compensate for weaknesses of private guarantee institutions · Difficult to utilize guarantee as policy tool
SMEs	<ul style="list-style-type: none"> · Lower fees enable higher access to various products 	<ul style="list-style-type: none"> · High cost (additional contributions & registration fee) in accessing guarantee service
Financial institutions	<ul style="list-style-type: none"> · Reputable system; many use services of guarantee institutions 	<ul style="list-style-type: none"> · Service unpopular because of low credibility of guarantee institutions

3) Public Guarantee Program Type II

Type II of the public guarantee program allows commissioned financial institutions to provide guaranteed loans within a set of rules governing company eligibility, maximum guarantee amount and compensation for losses in case of default. Under this type of guarantee, the government runs guarantee programs instead of setting up an independent credit guarantee watchdog. The guarantee channel is generally financial institutions with which guarantors sign an agreement on guarantee services. The government supervises the guarantor such as managing the loss compensation budget, selecting partner institutions and deciding on guarantee eligibility. Partner institutions, the biggest beneficiaries of the guarantee system, pay for guarantees in most cases. The maximum amount is applied on the interest rate for guaranteed loans to prevent payment of fees from being passed on to SMEs.

The commissioning of financial institutions to provide guarantees can incur moral hazard. To prevent this, most countries utilize the partial guarantee system in which a guarantor shares the risk of insolvency of guaranteed companies with a lender. This type of guarantee makes timely government intervention difficult because most operations are entrusted to private financial institutions.

This system is used in the US and UK. In Asia, Taiwan uses the commissioned guarantee system but with an independent guarantee provider functioning as the main entity in the system's implementation. While this type of guarantee is a financial tool long used in various ways by advanced economies, the US was the first country to adopt the public loan guarantee system for SME financing.

〈Table 2-6〉 Comparison of Efficiency among Guarantee Systems

	UK	Germany	France	Japan
Type	Public guarantee II	Mutual guarantee	Mutual & public guarantee	Public guarantee I
No. of approvals (A)	2,700	6,975	43,740	1,175,809
Annual profit (B)	▲ JPY 11.3 billion	▲ JPY 48.4 billion	▲ JPY 25.6 billion	▲ JPY 176.1 billion
Profit per case (B/A)	JPY 4,180,000	JPY 6,930,000	JPY 580,000	JPY 190,000
Pct. of gov't contribution	-	6.53%	-	0.86%
Cost structure	High	High	Medium	Low

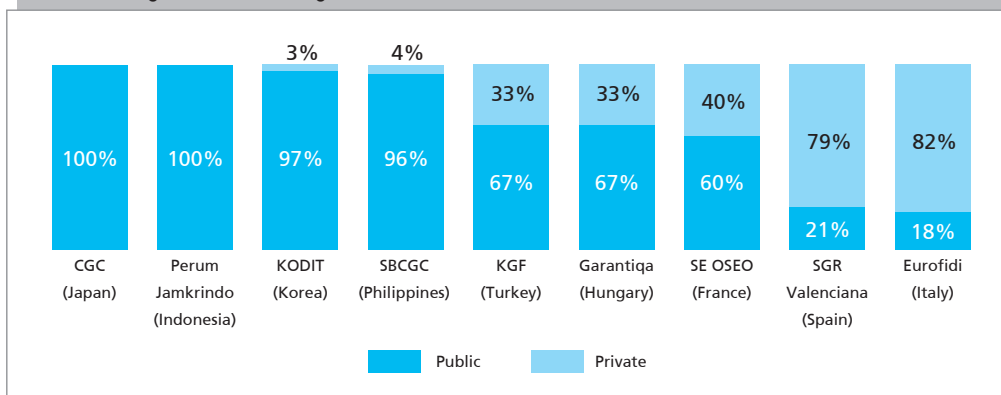
The mutual guarantee system is generally known to be more cost effective than the public guarantee system. Yet a comparison of the percentage of government contributions and profit per case (overall profit divided by the number of approved cases per year) shows that Japan's public guarantee program is more efficient than Germany's mutual guarantee system.

2.2.2. Basic Structure of Credit Guarantee Program

1) Operator and Financial Resources

In Asian countries such as Korea, Indonesia, Japan and the Philippines, where the public guarantee system is well-developed, guarantee institutions are funded by the government and investment. On the other hand, European nations favor the mutual guarantee system in which private companies and groups, including financial institutions, make more contributions than their counterparts in Asia do. By doing so, the financial institutions indirectly take part in the management of credit guarantee institutions and share the financial responsibility if such institutions default.

[Figure 2-3] Funding Sources of Credit Guarantee Institutions (Public/Private)



Note: 1) In France, the government makes an indirect contribution on SA OSEO (garantie section) via EPIC OSEO.

Note: 2) The public funds of KGF (Turkey) is managed by TOBB (The Union Chambers and Commodity Exchanges of Turkey).

Note: 3) In the case of KODIT, the Credit Guarantee Fund Act set forth that the financial institutions make the contributions for the credit guarantee. Accumulated contributions can be divided into government and financial institution contributions (56:44). Three percent of the private capital includes the contributions from corporations, local governments and non-banking institutions.

Source: KPMG Italy, "Credit Access Guarantees: a Public Asset between State and Market", 2011.

〈Table 2-7〉 Classification of Credit Guarantee Institutions by Financing Entity

	Public Model	Public guarantee I	Public guarantee II
Ownership Structure	Public Capital and Ownership	Public and Private Capital and Ownership	Mostly Private Capital
Business Model	Mostly Direct Guarantee	Mostly Direct Guarantee	Mostly Counter-Guarantee to Minimize Direct Guarantee and Private Capital Loss
Overseer	Government and Public Institutions	Public Institutions	Controlled by the Central Bank and Special Laws
Other Features	Led by Public Institutions; Insignificant Amount of Lobbying Activities	Weak Business Sectors other than Credit Guarantee Support	Active Credit Guarantee Support and Other Business/ Programs

Source: KPMG Italy, "Credit Access Guarantees: a Public Asset between State and Market", 2011.

2) Leverage

Leverage, defined as the ratio of total outstanding guarantee to the size of the capital fund, is one of the most important performance indicators for the guarantee

system. The ratio shows the capacity of a guarantee fund to create additional guarantees and the fund's stability. Credit guarantee institutions seek to maximize cost efficiency by providing guarantees that exceed equity or net assets. A rise in leverage leads to higher profit and lower average management cost per guarantee, but can also cause a larger payment amount under guarantees requiring a bigger capital base. Against this backdrop, most governments cap the maximum leverage.

Since leverage ratio is determined by outstanding credit guarantee and capital amount, the ratio's appropriate level depends on the environment of a guarantee fund. For example, leverage ratios are relatively high in Belgium, France and Japan, countries in which strong state support goes toward guarantee funds. On the other hand, the ratios are lower in nations such as Palestine, Iraq and Slovakia given their relatively volatile economic and political conditions.

3) Methodology

Guarantee systems are further classified into direct guarantee, in which most guarantee operations are handled by guarantee institutions, and indirect guarantee, in which guarantees are provided by commissioned financial institutions. Depending on the relationship between guarantee institutions and banks or the extent of involvement by such institutions, the systems can be further divided into 1) the individual approach that requires prior approval from guarantors for a guaranteed loan; 2) the portfolio approach in which financial institutions act as a proxy to process guarantee procedures set by a guarantor; and 3) the automatic approach in which financial institutions provide guaranteed loans without additional guarantee procedures.

Direct guarantee is a process in which guarantee institutions deal with all guarantee processes including interview, evaluation and approval. Indirect guarantee entrusts the aforementioned procedures to third parties, usually financial institutions. In most cases, Type I of the public and mutual guarantee models uses the direct guarantee while Type II of the public guarantee model adopts the indirect guarantee. The latter, however, can also be used if guarantee institutions are not large enough to provide direct guarantees; financial institutions have bigger negotiating power than guarantee institutions or governments have confidence in the credibility of financial institutions. Certain countries employ both methods.

Used in Korea, Japan and France, the individual approach has guarantee institutions perform most guarantee procedures. Under this approach, a borrower gets a loan from a financial institution after the guarantee institution gives approval. The countries using Type II of the public guarantee prefer the portfolio

approach, in which financial institutions perform the discretionary procedure to approve a guarantee within a prescribed scope for eligible loan seekers. The government or the central bank regulates the standard procedure for guarantee that participating financial institutions abide by. In most cases, the guarantee institution notifies banks of approval before or after giving a loan.

The automatic approach omits guarantee procedures and approval of the guarantee is obtained per an agreement signed by both parties. This allows financial institutions to provide guaranteed loans at their discretion within a prescribed scope. This approach is used in countries where the influence of financial institutions is dominant in the financial market. Except for Type II of the public guarantee, most guarantee institutions provide guarantees individually, not collectively. Type II of the public guarantee is usually matched with the portfolio approach. In select cases, more than two approaches are used at the same time.

3. Credit Guarantee System in Korea

3.1. History

The credit guarantee scheme in Korea started with the introduction of the Credit Guarantee Reserve System in 1961 when SME Bank (now Industrial Bank of Korea or IBK) was established under the SME Bank Act enacted on July 1, 1961. The enforcement decree of the act has provisions on raising and using reserves for credit guarantee.

Under the Credit Guarantee Reserve system, IBK set aside a certain amount of SME loans as allowance for credit guarantees to cover losses from SME loans. The rationale for the system was that IBK would expand SME loans, with its reserves covering losses. This reserve system evolved into today's credit guarantee system when IBK was allowed in 1964 to extend guaranteed loans within 10 times the Credit Guarantee Reserve to meet rising demand for SME loans.

A new credit guarantee system came into existence in March 1967 with the enactment of the SME Credit Guarantee Act, Korea's first special law for credit guarantees. Under this act, the Credit Guarantee Fund replaced the Credit Guarantee Reserve. The fund received government contributions and was allowed to collect fees from SMEs. Guarantees would be provided within the limit of 10 times the fund's amount. IBK was given the responsibility of operating the Credit Guarantee Fund per the act.

The differences between the two guarantee systems are as follows. While the

purpose of the Credit Guarantee Reserve was to facilitate loans by covering losses from SME loans with the reserve, the credit guarantee system under the SME Credit Guarantee Act was intended to jumpstart the provision of SME loans by providing guarantees directly to SMEs.

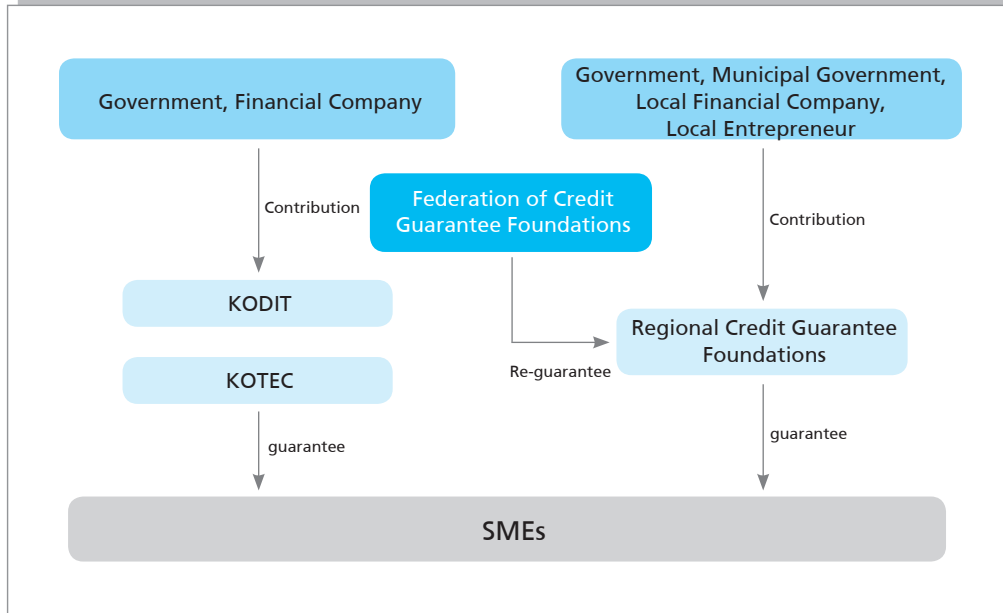
Another big leap for the Korean guarantee system came on Aug. 3, 1972, with the enactment of the Presidential Emergency Decree on Economic Stability and Growth (the so-called 8.3 Measure). The decree's purpose was to stabilize the national economy that was reeling from high oil prices due to armed conflict in the Middle East. One measure was enlargement of SME loans with credit guarantees by installing a guarantee fund at all financial institutions excluding the National Agricultural Cooperative Federation and National Fisheries Cooperative Federation. Eligibility was expanded to all licensed businesses, including large corporations. To secure capital for guarantees, all financial institutions with credit guarantee funds had to make contributions to the fund at the rate of 5/1,000th of their loan amounts.

Following the expansion of credit guarantee systems under the presidential decree, the Exporter Credit Guarantee Act followed in December of the same year to smoothen export financing. Because this credit guarantee could not be implemented due to difficulties in raising the needed funds, however, exporter guarantees were also covered by credit guarantee funds.

As the guarantee fund was managed by each bank, the government found that the fund was not operated efficiently and decided to integrate all such funds. The Credit Guarantee Fund (CGF) Act came on Dec. 21, 1974, and led to the setup of an independent institution solely responsible for credit guarantee services.

The enforcement of the CGF Act led to the abolition of the SME Credit Guarantee Act and Export Credit Guarantee Act. The fund stipulated by the CGF Act was given all the rights and obligations of the funds under the presidential decree. IBK was chosen as the provider of credit guarantee services until the establishment of a credit guarantee institution. On June 1, 1976, the autonomous agency Korea Credit Guarantee Fund (KODIT) was launched for this purpose.

[Figure 2-4] Operating Mechanism



KODIT provided credit guarantees under a regime of a single credit guarantee institution until April 1989, when Korea Technology Finance Corp. (KOTEC) was born under the Act on Financial Support for New Technology Projects. The framework of Korea's credit guarantee system assumed today's form in 1996, when the formation of regional credit guarantee foundations began to strengthen support for provincial SMEs.

The scale of guarantees given by guarantee institutions is shown below. As of late 2010, outstanding guarantees provided by KODIT stood at KRW 47,333 billion accounting for 60.7 percent of all guarantees, with KOTEC and regional credit guarantee foundations (CGFs) accounting for 22.3 and 17 percent, respectively. The following explanations center on KODIT, which has the biggest share.

〈Table 2-8〉 Outstanding Guarantee Balances by Credit Guarantee Institutions

(Unit: KRW billion)					
	2006	2007	2008	2009	2010
KODIT	29,634.0	28,917.1	31,743.1	46,913.1	47,332.7
KOTECH	11,027.8	11,245.9	12,593.5	17,144.8	17,426.1
Regional CGFs	4,032.6	4,586.7	5,989.3	11,195.5	13,247.9
Total	44,694.4	44,749.7	50,325.9	75,273.4	78,006.8

Note: Based on outstanding guarantee balance (with KODIT's figures including general guarantees, guarantees for special purpose companies, special guarantees for market stabilization and guarantees for special loans for bank capital augmentation).

3.2.1. Operating Agency and Financial Resources

1) Operating Agency and Legal Characteristics

KODIT is a special corporation established under the CGF Act. Unlike a corporation, it has no shareholders and its capital is largely raised through contributions from the government and financial companies. Such contributions are considered donations under the Civil Code, not investment, thus the donors lack the right to ask for the distribution of remaining properties if the fund is dissolved. As a non-profit organization, KODIT possesses the characteristics of a public service corporation. First, the CGF Act stipulates balanced growth of the national economy as its purpose. Second, it mandates that the government and banks make donations to KODIT. Third, the contributors do not receive the right to demand payment of dividends or distribution of remaining properties if and when the fund is dissolved. Fourth, the government appoints and monitors KODIT's top management. The Board of Policy is KODIT's highest decision-making body and sets major policies for operations in accordance with the CGF Act, other related laws and regulations. The board of directors makes resolutions on KODIT's key managerial issues. As of March 2011, KODIT had four divisions, 11 departments and four offices at its main headquarters, as well as eight regional headquarters and 99 branches nationwide.

2) Financial Resources

KODIT provides guarantee services for businesses lacking collateral, so securing a stable financial foundation to maintain credibility is of paramount importance. To this end, KODIT builds its capital with the following financial sources: 1) the government; 2) financial institutions; 3) businesses (including business associations); and 4) others.

Government contributions are determined each year depending on the budget required for KODIT operations. To secure stable capital funding, banks are required to make contributions at a certain rate specified in the Implementation Rule of the Credit Guarantee Fund Act. When calculating the contribution rate, KODIT uses an incentive program to encourage banks to lower their subrogation rates. The program works as follows. The basis rate for contribution is 0.225 percent a year if the multiple of payments under guarantees over contribution is between two and three. If the rate is less than two, an annual rate of 0.01 or 0.02 percent is subtracted from the basis rate. If the rate is larger than three, an annual rate of 0.01 or 0.02 percent is added. Financial institutions are required to pay monthly contributions to KODIT by the end of the following month.

Large corporations also make contributions to KODIT. Because their

contributions are not mandatory per the CGF Act, their proportion to the total contribution remains low. To expand its capital base, KODIT has lobbied for donations from large corporations. Amid the global economic slowdown, such corporations have made contributions on the condition that KODIT provide their subcontractors with guarantees in return. In 2010, contributions of KRW 846 billion were made with KRW 792.3 billion coming from financial institutions and KRW 53.7 billion from large corporations. At the end of 2010, KODIT's capital fund stood at KRW 6,508.4 billion. With a stable inflow of funds from the government, financial institutions and businesses, KODIT has maintained a leverage ratio of 7.3 to 8.5 times over the past five years.

〈Table 2-9〉 Contributions

(Unit: KRW billion)					
	2006	2007	2008	2009	2010
Contributions from government	300.0	130.0	92.5	1,980.0	-
Contributions from financial institutions	536.9	694.0	769.3	812.2	792.3
Special contributions from companies	-	0.2	11.1	555.3	53.7
Total contributions	837.0	824.3	872.9	3,347.5	846.0

〈Table 2-10〉 Capital Funds and Leverage

(Unit: KRW billion)					
	2006	2007	2008	2009	2010
Capital funds	3,719.6	3,606.7	3,721.3	6,375.5	6,508.4
Overall balance of outstanding guarantees	29,634.0	28,917.1	31,743.1	46,913.2	47,332.8
Leverage (times)	8.0	8.0	8.5	7.4	7.3

3.2.2. Types of Guarantee

KODIT's guarantees are classified as general and P-CBO by financial resource. Just four types of general guarantees existed at the time of KODIT's establishment: bank loan, payment, bond and tax payment. The scope of guarantees has since been gradually expanded. KODIT now provides guarantees for bills, facility leasing, loans from second-tier financial institutions, performance, trade bill acceptance and commercial transaction collateral, thereby covering almost all areas of direct and indirect financing available to business. The types of guarantees provided by KODIT are shown below:

〈Table 2-11〉 Types of Guarantees

Guarantee type	Content
Bank loans	<p>Guarantee for pecuniary obligations arising from loans extended by banks</p> <ul style="list-style-type: none"> • General working capital, trade financing, purchaser financing, network loan, bill discounting, facility fund, various technology development funds
Payment	<p>Guarantee for payment of future compensation obligation of business to bank that guarantees obligation</p> <ul style="list-style-type: none"> • Guarantee for L/C
Corporate bond	<p>Guarantee for payment of principal and interest of bonds issued by business for raising funds in capital market</p> <ul style="list-style-type: none"> • Bond must follow Securities Exchange Act • Maturity of at least 2 years required • Issuing amount of KRW 50 million or more required
Tax payment	<p>Guarantee for business intending to pay national or local tax in installments or needing reprieve from tax collection</p>
Bill acceptance	<p>Guarantee for payment of bill issued by business as collateral or means of payment for commercial transaction</p> <ul style="list-style-type: none"> • Guarantee for bill payable / Guarantee for bill issued as collateral
Loans from 2nd-tier financial institutions	<p>Guarantee for pecuniary obligations arising from loans extended by 2nd-tier financial institutions</p> <ul style="list-style-type: none"> • Merchant banks, insurers, agricultural and fisheries cooperatives, SME start-up investment companies, savings banks
Facility-lease	<p>Guarantee for lease obligation</p> <p>*Temporarily suspended since May 15, 2007</p>
Performance	<p>Guarantee used by business in bidding for construction work, supply of products or services or conclusion of contract</p> <ul style="list-style-type: none"> • Guarantee for bidding, contract, differential monetary amount, payment or remedying defects. • Beneficiary of guarantee: government, municipalities, state-invested agencies, financial institutions, second-tier financial institutions, leasing companies, public service corporations, state-owned institutions, original contractors with foregoing institutions, project owners under Act on Private Investment in SOC Construction.
Trade bill acceptance	<p>Guarantee for obligation in which SME accepts trade bill issued under export L/C (including domestic L/C)</p> <p>*Guarantee service suspended since May 15, 2007.</p>
Collateral for commercial transaction	<p>Guarantee for price payment obligation borne by SME in connection with commercial transaction contract</p>

As of late 2010, the outstanding balance of loan guarantees stood at KRW 32,881 billion, accounting for 84.8 percent of the overall outstanding balance of general guarantees. Guarantees for second-tier financing amounted to KRW 1,962.4 billion (5.1 percent) and guarantees for commercial transactions reached KRW 1,633.4 billion (4.2 percent).

〈Table 2-12〉 Guarantees by Type

(Unit: KRW billion)					
	2006	2007	2008	2009	2010
Bank loan guarantee	24,025.1	24,037.4	25,584.3	32,311.2	32,881.0
Payment guarantee	256.3	239.2	284.9	276.3	293.4
Corporate bond guarantee	6.3	1.3	-	-	-
Tax Payment guarantee	0.5	-	0.3	2.4	4.2
Bill guarantee	1,625.0	1,560.7	1,572.4	1,627.3	1,445.1
Guarantee for 2nd-tier financing	1,466.7	1,508.6	1,520.6	1,900.2	1,962.4
Performance guarantee	476.0	350.2	326.5	799.4	552.2
Guarantee as collateral for commercial transactions	655.6	837.4	1,097.4	1,349.3	1,633.4
Guarantee with collateral	12.7	7.4	0.4	983.3	9.3
Total	28,524.3	28,542.2	30,386.8	39,249.4	38,781.0

3.3. Operations

3.3.1. Eligibility

Under the Credit Guarantee Fund Act, guarantee services are offered to an individual or corporation that runs business for profit. Thus a not-for-profit entrepreneur or entity is ineligible. “An individual or corporation” refers to a self-employed individual or for-profit corporation under the Commercial Code (stock or limited liability company and limited or general partnership). But if a non-profit association or foundation holds resources apart from its original non-profit operations to conduct for-profit business, the latter’s division is eligible for guarantee services.

The Implementation Decree of the Credit Guarantee Fund Act specifies that “60 percent or more of the total guarantee amount shall be for SMEs,” emphasizing the preference for SMEs in guarantee provision. As of late 2010, SMEs’ share in the outstanding guarantee balance was 99.93 percent at KRW 38,752 billion, and the number of guaranteed SMEs was 229,729, or 99.99 percent of all guaranteed companies.

〈Table 2-13〉 Guarantees by Business Size

(Unit: KRW billion)

	End of 2008		End of 2009		End of 2010	
	No. of businesses	Outstanding guarantee balance	No. of businesses	Outstanding guarantee balance	No. of businesses	Outstanding guarantee balance
SMEs	193,950	30,255.0	218,721	39,205.9	229,729	38,752.5
Large corporations	28	131.8	23	43.5	19	28.5
Total	193,978	30,386.8	218,744	39,249.4	229,748	38,781.0
Share of SMEs (%)	99.99	99.57	99.99	99.89	99.99	99.93

Though eligibility for KODIT's guarantee services is limited to individuals, corporations or their associations that run for-profit businesses, legal grounds for restriction seek to distribute limited guarantee resources to industries that substantially contribute to the national economy.

The types of industries eligible for guarantee services have changed several times since KODIT came into being in the form of laws designating the eligible types of industries, which have gradually expanded in line with progress in the Korean economy and sophistication of the country's industrial structure. The intent here is to maximize the effectiveness of guarantee support by distributing limited financial resources to industries whose contributions to the national economy are comparatively more significant. To consolidate the public nature of credit guarantees, KODIT released a plan in September 2007 to restrict the handling of guarantees for gambling, unsound industries and speculative investment in real estate. In April 2008, the enactment of the Regulation on Operation of Guarantees for Inefficient Sectors restricted guarantees for sectors classified as inefficient.

In June 2011, this regulation was replaced with the Guideline for Operation of Guarantee Review and Criteria for Operation of Guarantee Review Methods, which aimed to combine guarantee support for industries with high inter-industry effect and significant contributions to the national economy. As of late 2010, the outstanding guarantee balance for wholesale and retail and manufacturing accounted for 42.8 and 33.8 percent, respectively, with both accounting for a combined 76.6 percent.

KODIT prohibits guarantees for businesses and their debt-related persons who have caused losses for KODIT. It also restricts guarantees for a venture whose

survival is deemed difficult. This prohibition means no guarantee is allowed, while restriction means certain requirements must be met before a guarantee is granted. Prohibition or restriction of guarantee is intended to enhance the soundness of KODIT's financial condition.

3.3.2. Maximum Guarantee and Guarantee Period

KODIT caps the maximum guarantee available to one business to secure capital soundness through dispersion of guarantee support. The ceiling for a general guarantee for one business is KRW 3 billion. That for a business with a weak credit rating is KRW 1.5 billion or an amount otherwise determined by regulations. If deemed necessary for the sake of the national economy, however, the guarantee limit can rise to KRW 7 billion with approval from the Financial Services Commission. KODIT's board of directors determines the maximum guarantee amount.

The maturity of a guarantee is the same as that of a loan guarantee. When the term of a loan obligation is extended, the guarantee period is extended as well. In case of loans such as overdraft, the term is up to one year, and when the loan period is extended, that of the guarantee may be extended accordingly.

3.3.3. Coverage Ratio

A partial guarantee is a guarantee in which the risk of loss from a guaranteed loan is borne jointly by a guarantee institution and a financial institution at a certain ratio. Previous pilot programs for partial guarantees failed in Korea, but one was finally introduced after the 1997-98 Asian financial crisis to prevent moral hazard by financial institutions.

With the expansion of entrusted guarantee institutions in December 1998, all entrusted guarantees were extended as partial guarantees in the range of 70–80 percent. In April 1999, KODIT's direct guarantees were also provided in the form of partial guarantees, with coverage ratios depending on whether a beneficiary financial institution was a contributor to the agency. The gradual introduction of partial guarantees was intended to minimize the unexpected impact of their full implementation. In January 2006, as a follow-up measure to the reform of the SME financing system, partial guarantee ratios were decided by credit ratings and guarantee utilization period. In case of renewal or extension of a partial guarantee handled before the end of 2005, the guarantee ratio had to be cut five percentage points. In 2007, the guideline for operation of partial guarantees was changed so that KODIT's overall ratio of partial guarantees could be maintained at around 80 percent.

3.3.4. Guarantee Fees

The revision to the Manual of Business Methods in 1998 provided the grounds for differentiated application of guarantee fees. This action's purpose was introduction of a market function in credit guarantee fees, more efficient distribution of financial resources for guarantees and building the foundation for KODIT's autonomous management through streamlining its financial condition. The Credit Guarantee Fund Act specifies that KODIT shall collect guarantee fees based on guarantee amount from businesses considering their creditworthiness. The manual stipulates the rates, calculation methodology, collection period and refund of guarantee fees.

In June 2001, KODIT changed its guidelines for guarantee fees based on a business's credit rating. In September 2004, the spread between guarantee fee rates based on credit rating was expanded. Since January 2006, guarantee fees have been determined by adding an additional rate to the guarantee fee rate based on a business's credit rating. The guarantee fee rate applicable at the time of providing a guarantee is calculated within the range of 0.5 to 3 percent (3.5 percent for large corporations), by adding the additional rate to the guarantee fee rate based on the credit rating by the Corporate Credit Rating System (CCRS) and then subtracting the subtractive rate therefrom. A branch head has the authority to adjust the guarantee fee rate within the range of 0.2 to minus 0.5 percentage points.³⁾

3.3.5. Method of Guarantee Transaction

Credit guarantees can be provided through two ways: individual and maximum limit transactions. In the latter, a guarantee line for a business is established through an annual credit analysis. When the business submits an application for a guarantee within the maximum transaction limit within the effective period, the guarantee is provided with a simplified procedure. In a maximum limit transaction, the positive effect from KODIT's perspective is reduced workload via omission of credit analysis procedures for each guarantee application when a business files two or more guarantee applications in a year. For a business using a credit guarantee, it is easier to devise an annual financial plan since the size of the credit guarantee available is determined in advance.

3.3.6. Re-guarantee

In a re-guarantee, when a regional credit guarantee foundation grants a guarantee to a business, KODIT in turn compensates the loss incurred within

3) The criteria for calculating the guarantee fee within the range are not disclosed to the public.

a certain ratio. KODIT and KOTEC have provided re-guarantee for guarantees provided by regional credit guarantee foundations (so-called primary guarantee). Since January 2004 the National Association of Credit Guarantee Foundations (renamed the Korean Federation of Credit Guarantee Foundations in January 2009) has provided re-guarantee services in replacing those of KODIT and KOTEC.

3.3.7. Surety and Collateral

KODIT in principle does not obtain collateral, recognizing that a credit guarantee is intended for businesses with insufficient collateral. KODIT demands collateral only when it is judged necessary. For example, if a creditor cannot take a borrower's property as collateral or if the credit conditions of a business are expected to significantly deteriorate, KODIT will require collateral. Since KODIT provides guarantee based on the creditworthiness of a business, in principle, no third party other than one with a close relationship with the business needs to co-sign. An individual deemed as having significant influence over the business' management, however, is required to have a co-signer.

3.3.8. Indirect Guarantee

Guarantees are mostly provided directly by KODIT. As SME financing is handled by financial institutions, however, KODIT has a guarantee entrustment agreement to let such institutions provide guarantee services instead of KODIT. An indirect guarantee is handled by a financial institution as a KODIT trustee per an agreement saying the institution carries out lending together with credit guarantee. When a business seeks financing through an entrusted bank, it can file a guarantee application with the bank. KODIT has concluded such agreements with IBK, Kookmin and four other Korean banks.

4. Policy Implications

4.1. Integration of Credit Guarantee Funds

Because the guarantee fund was managed by each bank, the Korean government found that it was operated inefficiently. Thus the need emerged to integrate all credit guarantee funds. The Credit Guarantee Fund (CGF) Act was enacted on Dec. 21, 1974, to solve the problem through a new and independent agency solely responsible for credit guarantee services. Upon implementation of the act, the SME Credit Guarantee Act and Export Credit Guarantee Act were abolished. The fund to be devised under the CGF Act was given all the rights and obligations of the funds under the presidential decree. IBK was chosen to provide

credit guarantee services until the formation of a credit guarantee institution. On June 1, 1976, the Korea Credit Guarantee Fund (KODIT) started operations as an independent organization. It granted credit guarantees under a regime of a single credit guarantee institution until April 1989, when Korea Technology Finance Corp. (KOTEC) was established under the Act on Financial Support for New Technology Projects. The framework of Korea's credit guarantee system took today's form in 1996, when the creation of regional credit guarantee foundations began in a bid to strengthen support for provincial SMEs.

4.2. Establishment of Supervision System

In Korea, the Financial Services Commission (FSC) oversees KODIT operations and can issue orders needed for supervision. Since its purpose per the CGF Act is to contribute to balanced economic growth through extending guarantees for businesses with growth potential, KODIT makes sure that its operations are closely aligned with the government's economic policy. In this context, the FSC issues orders to KODIT to make sure policies are effectively implemented. If necessary to achieve the purpose of the CGF Act, the commission may conduct special inspections on KODIT's operating conditions, accounting practices and other areas.

4.3. Establishment of Credit Evaluation and Risk Management Systems

The Corporate Credit Rating System (CCRS) developed by KODIT has been used since 2001 in credit ratings and various service areas such as credit guarantees and insurance. KODIT introduced the Startup Business Scoring System (SBSS) in 2007, which reflects the characteristics of start-ups possessing little financial information. KODIT also introduced the Automatic Rating System (ARS) in 2009 for simplified credit review of guarantee applications worth under KRW 50 million. Credit analysis and review processes have become remarkably simplified since the system automatically makes decisions on approval. In 2010, the KODIT Valuation System (KOVAS) was established for credit evaluation and reflection of the future value of a business by combining its creditworthiness and growth potential.

KODIT has built an integrated risk management system to effectively manage its capital. This system consists of the Credit-Var system for measuring credit risk, a leverage management system for managing liquidity risk and an operational risk system for controlling operational risk. In addition, KODIT monitors signs of insolvency among guaranteed businesses through the Insolvency-sign Alarm System, and enhances the soundness of guarantees by checking the appropriateness of credit assessment through its credit inspection system

4.4. Periodic Performance Evaluation of Credit Guarantee Fund

The setup of a database has effectively assisted the performance evaluation of credit guarantee funds and storage of evaluation results on a periodic basis. At the time of the 2008 global financial crisis, KODIT helped ease the financial difficulty faced by businesses through prompt and proactive expansion of guarantees. KODIT is considered to have played a key role in Korea's coping with the financial crisis. The fund's general guarantee amount in 2009 was KRW 38,964.1 billion, an increase of KRW 9,947.7 billion (34.3 percent) from the previous year. In 2010, KODIT's guarantee supply increased KRW 1,374.2 billion to KRW 40,338.3 billion to help consolidate economic recovery. In the aftermath of the 2009 rise in guarantee supply, the value of defaulted guarantees rose KRW 97.3 billion over the previous year to KRW 1,814.8 billion in 2010. Because of the drop in outstanding guarantees due to normalization of emergency measures taken during the crisis, the default rate in 2010 rose to 4.7 percent. The guaranteed payments amounted to KRW 1,810 billion in 2010, up KRW 44.1 billion from KRW 1,854.1 billion in 2009. The subrogation payment rate in 2010 was 4.7 percent, the same in as the previous year. KODIT also expanded the foundation for collection through the introduction of a debt adjustment system and additional acquisition of public information on debtors. As a result, KRW 770.6 billion was recovered in 2010, the largest in KODIT history.

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Human Resource Development: Scientists and Technicians

1. Overview of Science and Innovation Policy and Institutions
2. Overview of Human Resource Development Policy and Institutions
3. Science and Technology Human Resources
4. Policy Implications

Human Resource Development: Scientists and Technicians

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Summary

Development of science and technology human resources (S&T HR) has been a key issue for small- and medium-size enterprises (SMEs), which struggle to hire quality S&T HR and consequently need to develop their own. In Korea, development of S&T HR has been actively pursued in accordance with the advancement of the Korean economy and industry. Given the Confucianism-based Korean society, where higher education is valued and individuals with advanced degrees are highly respected, vocational education, which is essential for providing an adequate quantity and quality of S&T HR for SMEs, has been considerably neglected and marginalized.

Acknowledging the undesirable social phenomenon to undervalue vocational education, the Korean government has put in significant effort toward strengthening vocational education to push forward the so-called competency-focused society. In line with this effort, the country has set up new types of vocational institutes -- Meister high schools, world-class colleges and polytechnic universities. Vocational high schools have played a significant role in providing S&T HR, yet are still considered second-tier and low-quality educational institutions. Naturally, graduates of such schools are often unfairly dismissed as less qualified and talented than those from non-vocational high schools. To remove this negative perception, Korea in 2010 introduced Meister high schools, with success. At the college and university level, world-class colleges and polytechnic universities are

important sources of S&T HR for Korean workplaces including SMEs. World-class colleges receive support from the Korean government as vocational colleges because of their excellent educational capacity; Polytechnic University is a skill-oriented, public institution of higher education offering training and development of skilled workers. Not only do polytechnic universities produce skilled graduates whom companies and industries want to hire, they also help sharpen and enhance skills and job-related knowledge of working professionals, especially those of SMEs.

Following the Korean government's education and labor policies of "Competency Based" and "Employment First, College Later," vocational schools have not only helped SMEs secure valuable S&T HR and reduce employee training and development costs, but also enhanced the overall reputation of vocational education in Korea. This change in social perception has helped facilitate getting a job than an academic degree and created a larger pool of job applicants. This is a godsend for SMEs, which often suffer from shortages of quality employees.

Among policy recommendations, the first is publicizing and promoting the successes and achievements of S&T HR from vocational schools. The Korean government needs to continue its efforts to change the social climate and culture to raise the perception of vocational education in Korean society. The second suggestion is that by acknowledging the enthusiastic need of Korean workers for higher education and career opportunities, a work-learning dual system is needed more actively and widely to them. The third suggestion is systematic support for both vocational schools and their students and graduates to raise their image of SMEs. Finally, assessment and selection of S&T HR from vocational schools should be based on their competency rather than academic degree. This will greatly help public and large companies and organizations to get over their reluctance to employ vocational school graduates.

1. Overview of Science and Innovation Policy and Institutions

Before modern globalization, national policy for science and technology (S&T) in Korea was largely employed by developed economies with advanced infrastructure and a history of transforming research into innovative products and services. The 1960s and 70s, however, saw S&T initiatives being implemented in many developing countries. This change was symptomatic of the industrial evolution in these economies, one that transitioned from importation to import substitution and export-oriented phases at breathtaking speed. The success of policies in certain countries provides valuable insight into the state's many roles in fostering innovation.

Government can incentivize innovation through financial incentives such as tax credits for corporate R&D, subsidies through matching funds and reduced interest rates for venture capital. It can also establish the underlying institutional foundations for R&D by strengthening intellectual property protection, public research organizations and the national innovation system as a whole. As a user of innovation, government can stimulate R&D through public procurement or financing technologies with societal applications such as national defense, health or sustainable energy. In many countries, state-sponsored think tanks conduct long-term industrial R&D. Lastly, policy instruments are often responsible for deciding the pace and direction of innovation processes. Environmental protection, for instance, can spur the development of green technologies.

Public initiatives can be crucial to SMEs. Though a wide range of factors influences a company's ability to innovate, SMEs are especially constrained by their size, access to credit and human resources, tendency to export, opportunities to interact with research organizations and membership in networks. Innovation by SMEs is oftentimes a reaction to competitive pressure from larger companies and results from informal strategies, not detailed planning.

The Korean government has at times performed all of the roles mentioned above. Though its industrial policy during the 1970s and 80s has been often criticized for distorting resource allocation, government efforts are known to have helped companies develop their own technological capabilities through production experience. Furthermore, by guaranteeing that successful R&D outcomes would be implemented and profitable, public procurement of Korean products motivated investment in new technologies in the 1990s.

Korea has recently expressed its commitment to S&T through five-year plans. The latest was the so-called 577 Initiative that envisioned the government investing 5 percent of GDP in R&D by 2012. The plan was to focus R&D investment in seven technological areas and seven major features of the national innovation system, and innovation by SMEs was named as a major feature. Meanwhile, the technological areas were later subdivided into 50 critical and 40 candidate technologies to cover key industrial technologies (e.g., automotive, shipbuilding, semiconductors and liquid crystal displays), emerging industrial technologies (e.g., cancer treatment and pharmaceutical technologies), knowledge-based services (e.g., software and design), state-led technologies (e.g., construction, transportation and nuclear power), technologies related to national (e.g., response to infectious disease, food safety and information technology) and global issues (e.g., energy, climate change and the environment), and basic and convergent technologies (e.g., platform technology, bio-chips and bio-sensors, nano-technologies and robotics).

In response to these limit hampering smaller companies, Korea has instituted several SME-oriented policies. Recognizing that SMEs form the backbone of the Korean economy, the 577 Initiative suggested expanded support through the Korea Small Business Innovation Research Program (KOSBIR), an environment that encourages technology-based start-ups, additional financing for SME development and reinforced incentives for the private sector to participate in technology financing.

Responsibility for managing and evaluating R&D grants funded by the SMBA lies with Korea Evaluation Institute of Industrial Technology (KEIT), a government-affiliated body under the Ministry of Knowledge Economy to coordinate domestic industrial R&D. As a result of its duties, KEIT handles tasks for project selection, planning, development and monitoring, project calls and follow-up surveys. Approximately 13 percent of KEIT's budget is dedicated to programs managed on behalf of the SMBA. The Korea Institute for Advancement of Technology (KIAT), meanwhile, is a sister think tank of KEIT whose role is related to international R&D, infrastructure development and planning of industrial technologies. In addition to supervising Korea's participation in FP7, Eureka and the Enterprise Europe Network, KIAT has directed R&D programs abroad, supported technology transfers and commercialization, and promoted regional industries. Around 65 percent of the institute's budget is spent on regional clusters.

Korea Institute of Industrial Technology (KITECH) is Korea's primary means of supporting SMEs through the development and securing of advanced technologies. In accordance with its mission of promoting original production technologies, KITECH focuses on three research areas: root industry technologies, clean production systems and IT-based fusion technologies. Of these areas, SMEs are most active in root technologies (i.e., metal molds, heat and surface treatments, plastics and welding), and consequently in the supply of parts and materials to Korea's industries. Efforts to create clean production systems by renovating resource-to-product conversion processes and actualizing green production sites, however, have aided SMEs in coping with environmental regulations in trade.

To help commercialize technologies and deliver a comprehensive range of technical support services, KITECH has formed a nationwide support system consisting of six service divisions. The institute's general strategy for SME technology, meanwhile, consists of four categories: proximity projects aimed at real time, field-oriented development (e.g., operation of process labs); strategic projects that support R&D commercialization (e.g., dispatch and visitation services); general projects that promote regional industries through R&D links (e.g., test-bed projects); and infrastructure projects designed to boost corporate performance (e.g., partner enterprise promotion program). The targets of these projects include

150 companies, 50 innovation-based ventures and 15-percent improvement in technology support efficiency.

Lastly, KITECH is a platform for global cooperation and joint research. Its overseas technology networks help secure original technologies from advanced markets while propagating domestic technologies to less developed ones. The networks are connected with 141 institutes abroad, 59 of which are in the European Union, 46 in Asia and 29 in North America. KITECH's Technical Cooperation Centers in the US and Asia, as windows to joint R&D and Korea-friendly technologies, are representative of KITECH's overseas bases.

2. Overview of Human Resource Development Policy and Institutions

As human resources emerge as an increasingly valuable source of international competitiveness, educational methods and institutions from the industrialization era, those focusing on rote learning and initial training are proving to be less effective for workers, companies and countries. In a globalized world where IT has intensified the pace of change in most industries, continuous skills development plays an even more vital role in furthering an individual's career prospects, strengthening companies and promoting economic growth. Education systems must thus include initiatives that allow graduates and workers to continue improving their knowledge and abilities throughout their working lives.

In general, human resource policy for SMEs are little different from that applied to other companies. Nonetheless, an additional level of support is needed for SMEs to overcome their human resources constraints. In labor, SMEs commonly face three types of mismatches. The first is a job mismatch resulting from the expected wages of jobseekers being more than what employers are willing to pay. The second is a skills mismatch referring to gaps between the skills of job applicants and those sought by employers. The third is an information mismatch that arises from the failure of employers and jobseekers to find each another.

Korea's human resource policy, especially for education and S&T, has been a principal driver of economic growth and undergone adaptation given the country's changing industrial and social needs over the past 50 years. The 1960s were characterized by lack of infrastructure, post-war shortages of necessities such as food and clothing, and a concerted push to develop light industries. To nurture the technicians needed to support targeted sectors, the government instituted the Vocational High School System in 1963 and began operating five-year special vocational schools alongside those of the three-year variety. Lack of differentiation

between the five-year program and offerings at colleges eventually caused the system's demise in 1976, but this allowed vocational education to be offered at technical high schools with a specialized curriculum based on hands-on learning and unique educational goals.

To systematically implement human resource policy toward S&T, the Science and Technology Agency was formed as a separate entity in 1967. The Vocational Training Law of 1967 and introduction of vocational training centers, meanwhile, played a key role in providing badly needed technicians to industries in the 1970s. These centers, both public and private, have evolved over time. While the public centers mainly attracted middle school graduates during the 1960s and 70s, these institutions since the 80s have focused on preparing high school graduates for manufacturing jobs.

As Korea entered the 1970s, the country's dependence on foreign imports prompted then President Park Chung-hee to issue the Declaration on Promoting the Heavy and Chemical Industry. To meet the high demand for technicians, engineers and scientists in strategic industries, the government initiative Specialization of Technical High Schools concentrated budgetary support on technical high schools specializing in mechanics, pilots and specialization. Mechanical schools were started in 1973 to train processing technicians for mechanical and defense industries. Pilot schools were begun in 1976 to support construction sites abroad. Lastly, specialization schools were instituted in 1978 to nurture skilled personnel in the heavy and chemicals industry.

Overall, these specialized technical high schools offered high quality education based on superior infrastructure, generous budget and first-rate administrative support. By making significant investments in students and providing impressive facilities, certain schools even attracted the top 10 percent of graduating students from middle schools. Changes in industries and technological demand in the 1980s, however, led to the system being discarded.

Specialization of science and engineering universities, a policy that endorsed four-year universities focusing on those two subjects in accordance with human resource demand for major industries, was Korea's tertiary-level counterpart to the system of specialized technical high schools. By adjusting student quotas and channeling funds to key academic departments, the specialties of several major universities were adjusted to fit the core industries of each province. The policy proved to be an effective tool for developing institutions of each region, encouraging collaboration between academia and industry and distributing national human resource needs within the education system. The initiative was terminated in 1983, however, because university specialization was no longer

compatible with industries requiring more advanced technologies, IT and automated processes.

The 1970s saw both inbound and outbound strategies being employed to strengthen the technological capabilities of business. The inbound strategy was exemplified by the so-called program Attract Korean Expatriate Scientists and Engineers Back to Korea, which was designed to attract qualified Ph.D. holders with a minimum of two years of field experience using financial incentives, non-financial benefits and job opportunities. The program, which was eventually discontinued in 1982, brought a number of expats back to Korea as staff, short-term consultants and lecturers in the 1970s.

Korea's outbound strategy consisted of initiatives to support overseas studies and training for gifted students and skilled professionals. The National Scholarship Program for Overseas Studies was launched in 1977, and as of 2001, 1,717 students had received national scholarships for study abroad. Of the 1,600 students selected from 1977 to 1998, 80 percent were science and engineering majors. In 1982, state support for post-doctoral training began for Ph.D. holders under age 40 who had earned their doctorates in less than five years. As of 2001, 3,744 individuals received such support, of which 86.4 percent went to universities and 12.3 percent to foreign think tanks.

In the 1980s, the trade barriers and high licensing fees imposed by advanced countries forced many companies to develop in-house capabilities beyond what was required to duplicate or imitate foreign technologies. Under this pressure, the development of specialized technicians and engineers emerged as the top priority. Following the precedent set in many developed economies, the Korean government introduced the Industrial College System in 1982. Offering learning opportunities to college dropouts, those deprived of higher education or others who wanted to acquire skills after graduation, the system first upgraded the status of two-year general colleges to industrial colleges. Though eligibility requirements were not defined from 1982 to 1983, admissions quotas were instituted in 1984 as a growing number of applicants began to overburden the infrastructure and faculty of the colleges. As of 2002, Korea had 19 industrial colleges, eight of which were public.

Fierce competition in the 1990s helped Korean companies recognize that only innovation and R&D could guarantee growth. Consequently, efforts went toward expediting development of frontier industries such as IT. The growing robustness and efficiency of R&D in private companies and universities, meanwhile, led government authorities to back the operations of these parties in state-sponsored research. To foster world-class scientists and engineers to lead research and innovation, prominent professors at university science and engineering

departments received support while graduate scholarships were extended to academically talented candidates. And the Science Center-Engineering Research Center initiative was created to strengthen cooperation among industry, academia and think tanks.

The SMBA recognizes that human resources development, despite being a major determinant of competitiveness, is a chronic problem for most SMEs. Part of the challenge is the general lack of awareness or negative perception of SMEs. Korean youths, for example, commonly invest one to two years preparing to join large corporations rather than SMEs. Better working conditions, higher salary and other benefits are often cited as reasons for their decision. Thus a main pillar of the SMBA's human resources policy is to promote the advantages of working for an SME such as the opportunity to gain diverse career experience, work alongside executives and foster entrepreneurship. Other SMBA initiatives include the provision of ready-to-work and customized labor to SMEs, temporary wage subsidies for R&D personnel, and entrepreneurship education for CEOs and aspiring entrepreneurs.

〈Table 3-1〉 SMBA Programs for Human Capital Development

SME Specialized Technical High School Project	Fosters technicians and craftsmen needed by SMEs by assisting operations of specialized technical high schools; project includes efforts to amend curriculum, revise course materials and provide training equipment
SME Technological Program	Connects specialized high schools and junior colleges to train professional technologists needed by SMEs in various industries
Foreign Professional Workforce Supply Project	Assists in finding and attracting foreign R&D professionals SMEs require for technological development and innovation
SME CEO Education Program	Provides opportunities for SME CEOs to learn practical skills in business management
Good Skills Transfer Program	Teaching of specialized skills by master technicians to students and graduates of specialized high schools to prepare labor force for manufacturing operations

In spite of its many successes, Korea has had policy failures and limitations that are just as informative. The direct provision of public vocational training as a whole, for example, has been a double-edged sword. It allowed rapid expansion of investment in workforce training yet encumbered the training offered by companies through excessive regulation. Consequently, reliance on government reached unproductive levels and a private market for training never fully formed. Likewise, though Korea's vocational training system is widely considered a success, its levy system has come under fire for imposing a financial burden on companies

while failing to boost voluntary investment in training. Even the integration of vocational training with employment insurance failed to induce sufficient corporate investment.

The vocational training system might also have outlasted its usefulness. No empirical analysis has definitively proven failures in Korea's training market, and despite a growing need to provide training to vulnerable groups such as non-regular workers and the unemployed, many argue that the overall extent of state intervention should have undergone gradual reduction.

The public training system has not always properly responded to the demands of sectors or the growing complexities of Korean industries. Its inability to keep abreast of demand for skilled workers, for instance, resulted in excessive competition and excessively high wages in Korea's footwear industry in the 1970s. Additionally, since industries develop at different rates and have varying attributes, skilled workers were oversupplied in certain sectors and undersupplied in newly emerging areas. Korea's training systems as the so-called "training for activity" offered by the government have been one step behind industry changes rather than responding in a timely manner. Certain experts notes that undue emphasis has gone toward initial training, training for production workers, investment in hardware, supply-oriented training and training by large corporations. They propose a switch to "training for impact," an approach that helps smaller companies achieve workplace innovation through learning organizations.

3. Science and Technology Human Resources

S&T HR has been called one of the most important resources in national development, given that science and technology advances national wealth, preserves the natural environment and ensures public health. S&T HR has been defined in various ways from different perspectives. In Korea, the term is classified based on education and skill qualification. In contrast, the Organization for Economic Cooperation and Development (OECD) defines "HR in S&T" based on education and occupation, UNESCO defines "S&T Personnel" as workers with a minimum of a high school diploma and work experience, and the US defines "S&T workforce" as those with at least a college-level education and a job.

3.1. Historical Policy Changes

Korea's policy for S&T HR development has undergone significant change since the 1960s, when its modern economic growth began. In the 1960s, the shaping of S&T policy sought to provide skilled staff to the nation's growing light industry. In

the 1970s and 80s, S&T HR policy was revised in accordance with the development of heavy industry; more specialized education was introduced in human resource development for meeting the demand for highly skilled S&T HR in reforming the nation's education system. Vocational high schools and colleges were also established. Since the 1990s, a more systemized effort has gone into developing S&T HR through higher education systems at the college and university level, and hybrid and demand-oriented S&T HR development has now progressed to provide human resources needed by Korea's more advanced industries. The emphasis is on valuing employee creativity and core competencies more than simple skills and field-oriented knowledge.

Confucianism has significantly influenced the country's social fabric, and S&T HR development and its effectiveness have been also affected in the same manner. Given that higher education is valued and individuals with advanced degrees are respected and admired, vocational education, which is essential for providing adequate quantity and quality of S&T HR for SMEs, has seen considerable neglect and marginalization. This negative social perception of vocational education as well as the lower status and views of S&T HR have led to few individuals pursuing S&T careers, lowered the satisfaction of those receiving vocational education, and eroded the quantity and quality of S&T HR overall. The shortage of quality staff is especially acute in SMEs.

3.2. Major Programs

3.2.1. Current Status of Vocational Education

Since the early 2000s, the Korean government has made significant efforts toward strengthening vocational education to establish a competency-focused society. This campaign is beneficial for resolving two major issues in human resource development, particularly for SMEs. First, the expectations of highly educated S&T HR are too high. Though the Korean economy needs higher quality S&T HR with more advanced knowledge and better cognitive abilities, the mainstay of the industrial workforce, which is SME staff, still consists of mid-level skilled S&T HR. As a result, despite an adequate number of job openings in technical and manufacturing fields, SMEs often struggle to find quality S&T HR, especially among youths. Second, provider-centered governance of human resource development is problematic. Human resource development in Korea is mainly conducted by human resource schools, institutions and government. Their educational curriculums cannot even begin to meet the demand of industries, and accordingly, are limited in giving graduates the appropriate skills and knowledge required at SMEs. This large demand-supply discrepancy has led SMEs to spend their insufficient resources on human resource training and development. The following are selected examples

to show how the two pressing issues of SME personnel are managed by vocational education in Korea.

3.2.2. Vocational High Schools

Vocational or specialized high schools seek to foster a talented technical workforce and strengthen student specialization in major industries. More specifically, their purpose is to “provide education to foster workforce in specific areas and experience-based education such as field training for students with similar talents, aptitudes and abilities (Article 91-1, Enforcement Decree of the Elementary and Secondary Education Act).” The education system of vocational high schools consists of five major sectors: agriculture, manufacturing, ocean and fisheries, IT and business, and vocational home economy. Among the five areas, manufacturing is the most popular (41.28 percent) followed by IT and business (39.57 percent). Vocational high schools are not that respected or reputable in the eyes of Korean students and society, but their role in producing a skilled workforce is crucial. So the Korean government has continued efforts toward revitalize vocational high schools.

As a part of this effort, vocational high schools provide several benefits to their students. Graduates are eligible for special university admission after working for three years; they need not take the official college entrance exam, which hundreds of thousands of high school students spend enormous effort and money to prepare for every year. Graduates of vocational high schools can also qualify for special scholarships and admission to special degree programs at corporate universities, industry-university contract-based departments, industry-commissioned education and others. Finally, such graduates will also gain valuable opportunities to build up work experience and advanced technical expertise by working for foreign companies and abroad.

3.2.3. Meister High School

1) Background

Vocational high schools have significantly contributed to the provision of S&T HR to SMEs, but are still plagued by limits. They are still considered second-tier and lower-quality educational institution, so graduates of vocational high schools are unfairly labeled as less qualified and talented as those from regular high schools. Another problem is that graduates of vocational high schools cannot meet job demands and requirements in real workplaces. To resolve these deficiencies, the Meister high school has emerged as a viable alternative to vocational high schools.

2) History and current status

March 2010 saw the debut of the Meister high school in Korea as 21 of them were opened. The number more than doubled to 48 by 2016. Since 2010, each Meister high school has undergone review and reselection; additional Meister high schools have been opened every year. The first step in the selection of a Meister high school is for ministries and government departments to discuss which strategic industries and areas require intensive state support. Then the Ministry of Education makes the final selection after reviewing recommendations from regional education superintendents.

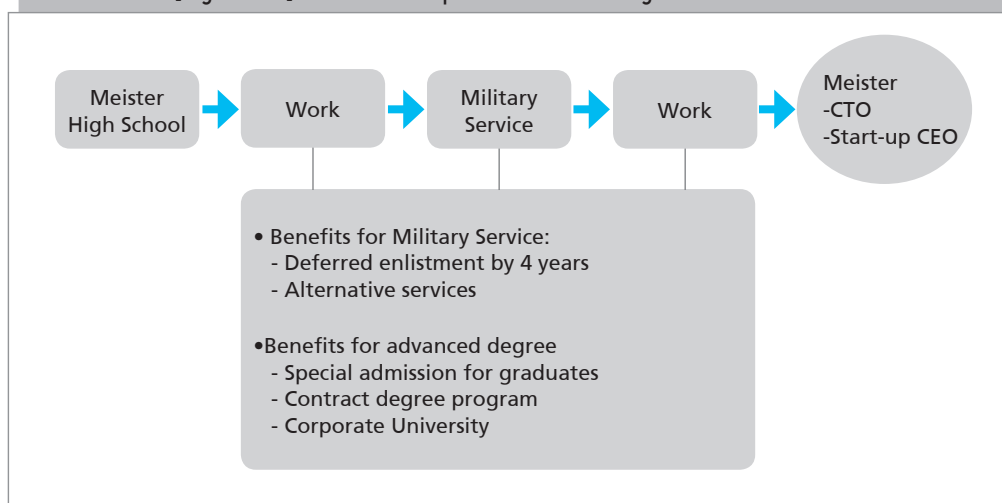
3) Features

Meister high schools differ from general vocational high schools in several ways. First, a Meister high school offers a customized education in which government regulations are applied less strictly. Curriculums and textbooks are tailored to meet industrial needs based on memorandum of understanding (MOU) agreements with selected companies and industries. Second, the principal and teachers consist of field experts rather than merely licensed teachers. In Korea, those without teaching licenses cannot teach at a formal elementary, middle or high school. Third, a Meister high school can recruit from any region of Korea, whereas a regular vocational school is limited in recruitment based on region. Fourth, school operations are not strictly regulated in the event of rational regional and industrial needs.

4) Development Strategies

Three strategies are used to promote and develop Meister high schools in Korea. The first is to set the proper career paths for graduates. The latter can choose alternative services to mandatory military duty for men; they can obtain special admission to formal and special degree programs leading to a bachelor's degree. Other educational and career opportunities abroad are offered to Meister graduates. A simple description of career development for such graduates is shown in [Figure 3-1].

[Figure 3-1] Career Development of Meister High School Graduates



The second strategy is to obtain exemption from government regulations for formal educational institutions. Meister high schools are free to choose their own curriculums and textbooks regardless of the official curriculums and textbooks requires for all other public and private high schools. Meister high schools are also exempt from hiring teachers with official teaching licenses and can employ field experts with professional skills and hands-on knowledge. And Meister students can come from anywhere in Korea without geographical restriction, a luxury not available to all other high schools in Korea.

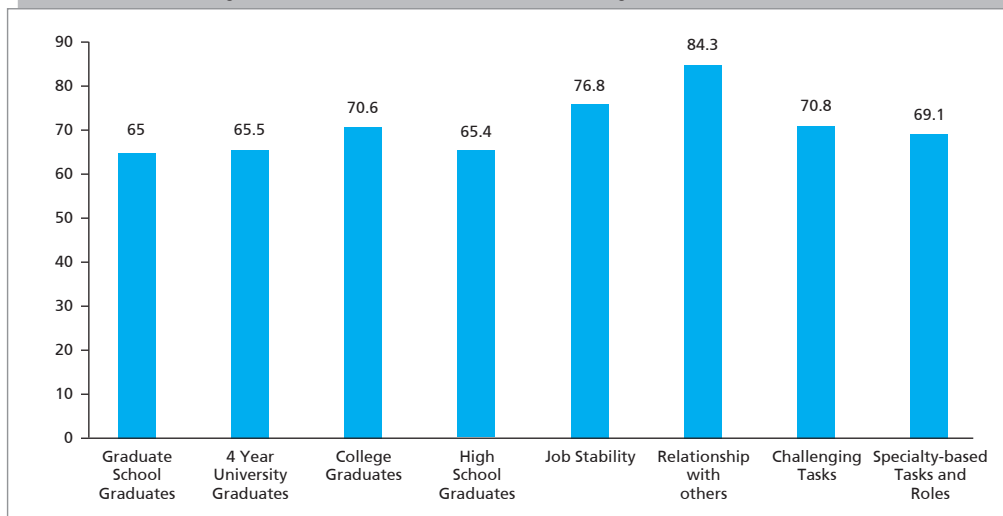
The third strategy is to substantially support all stakeholders including students, schools and companies. Students enjoy extraordinary benefits such as free tuition, living stipend and other tangible forms of financial support. Practical language education is also offered to help students gain overseas employment. Meister high schools receive significant subsidies for operation, equipment and facilities. Finally, companies that participate in and cooperate with Meister high schools are recognized through the certificate as the best human resource development company and gain eligibility for substantial financial support from the Korean government.

5) Outcomes

Graduates of Meister high schools have seen successful job placement and found jobs in advanced manufacturing, software and IT, banking and finance, and traditional services and manufacturing. The overall level of satisfaction by employers with a Meister education is also high, especially with basic learning skills (89.9 percent), personality (89.7 percent), theoretical knowledge (87.7 percent) and field experience in their majors (84.9 percent).

The job satisfaction level of Meister graduates is high as shown below (84.3 percent of graduates are satisfied with their relationship with supervisors and coworkers and 76.8 percent are satisfied with their job stability). Moreover, their job satisfaction level is little different from that of holders of graduate degrees from colleges and universities.

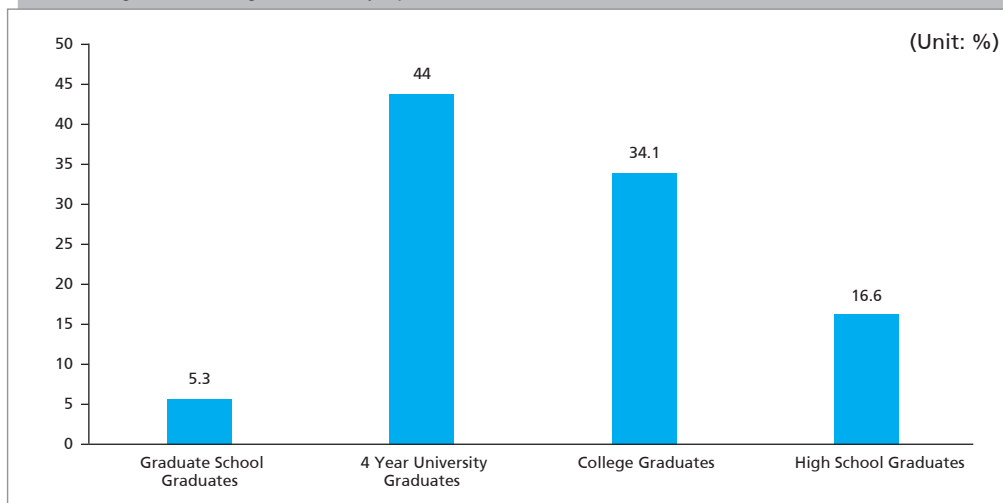
[Figure 3-2] Job Satisfaction of Meister High School Graduates



Source: SMBA.

Meister graduates have also been reported to do similar or identical tasks and roles of college and university graduates (66.3 percent have jobs that normally require a junior college degree).

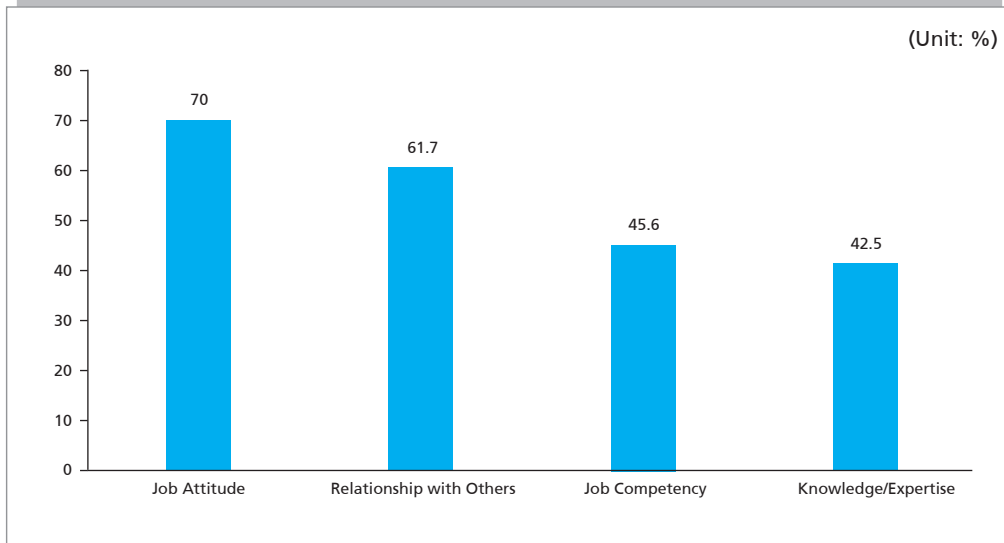
[Figure 3-3] Degrees of Employees That Perform Meister Graduates' Tasks & Roles



Source: SMBA.

Many employers also report that Meister students are even better than college graduates in attitude toward their jobs (70.0 percent), job competency (45.6 percent), relationship with others (61.7 percent), and knowledge and expertise in major areas (42.5 percent). This report suggests that the quality of a Meister high school education is recognized as high and comparable to that of a college and university in Korea.

[Figure 3-4] Evaluation of Meister High School Graduates



Source: SMBA.

3.2.4. World-Class Colleges (WCC)

World-class colleges in Korea receive state supports as vocational schools because of their excellent educational capacity. More than a hundred vocational colleges in the country produce mid-level technicians with a solid base in theory and skills around specialized areas including technology, agriculture and fisheries, nursing, home economics and arts. Such colleges, however, face problems similar to those of general vocational high schools: low social status and negative social perception, large demand-supply discrepancy because of theory-based and outdated curriculums and textbooks, and insufficient resources including unqualified teachers.

In response, the government has chosen 21 world-class colleges to overcome such problems and offer more practical and field-oriented education at the college level. The three major strategies to promote these colleges are 1) strengthen the competencies of industry-college cooperative education; 2) secure a stable financial basis; and 3) improve the competencies of international education. Through

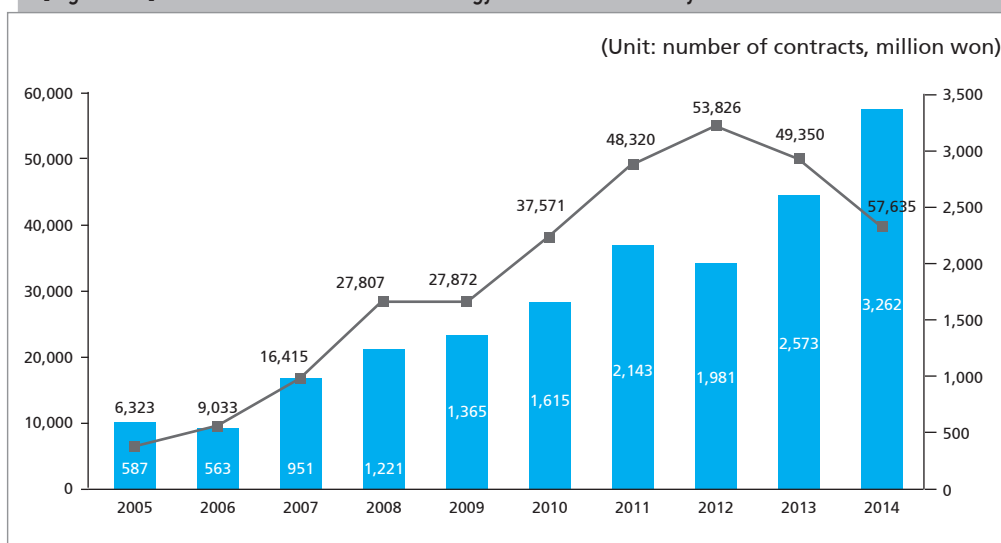
these strategies, world-class colleges aim to achieve the three major goals of field-oriented education, sound organization management and globally competitive vocational education.

World-class colleges are selected through a five-step process. The first step consists of 60 colleges chosen based on several indexes to show the rates of student turnover, employment of graduates and scholarship. The second step appraises the financial status of each college in consideration of faculty salary levels, the school's financial dependence on student tuition, and funding of teaching and research. After these two steps, 44 colleges make the cut. In the third step, the 44 undergo further evaluation based on proposals for program operation, graduate employment rate, international education and other factors, narrowing the candidate list to 20 colleges. In the fourth step, a field survey is conducted on companies that hired graduates from the 20 colleges with questions on the reputation of universities and graduates and satisfaction level. This is to gauge student satisfaction of the 20 colleges. The final step is the ranking of the world-class colleges. Once selected, the colleges and their graduates receive benefits and support like students of Meister high schools do.

3.2.5. Polytechnic University

A polytechnic university is a skill-oriented, public institution of higher education offering training and development of skilled workers. The school's objective is not only to produce skilled job applicants sought after by companies and industries, but also to help sharpen and enhance skills and job-related knowledge of working professionals, especially from SMEs. Specifically, polytechnic universities help the unemployed gain and practice skills from three months to a year (1,400 classroom hours per year). To alleviate with Korea's poor job market, polytechnic universities can provide more diverse educational programs even in the evening. They also offer multi-skills S&T HR programs in which working professionals take courses to earn formal degrees. More importantly, polytechnic universities provide working students with training and development programs that enhance their job skills. In provincial regions, such schools play a significant role in providing SMEs with workers possessing the appropriate levels of skills and job-related knowledge. In addition to other technical colleges and universities, polytechnic universities have made significant contributions to facilitating industrial-academic collaboration. The graph below demonstrates how polytechnic universities and other technical education institutes have enhanced the number and revenue of technology transfer contracts.

[Figure 3-5] Number and revenue of technology transfer contracts by technical education institutes



Source: SMBA.

Following the Korean government's education and labor policies of "Competency-based" and "Employment First, College Later," vocational education institutes have produced several tangible outcomes. Because vocational education is more customized and demand-oriented, it is better suited to helping resolve such issues as skill and job mismatches, which raise training and development costs for SMEs. Vocational high schools and colleges conclude contracts with or get support from the Korean government and/or companies on the condition of employment. Accordingly, graduates from those schools are equipped with the skills to excel in specific jobs. They also work for contracted companies and industries and thus the latter can secure skilled S&T HR in a more stable manner.

This change in social perception is crucial because the negative view of vocational school graduates is a major impediment to vocational education in Korea. This changing social perception of vocational education is helping people get a job rather than an academic degree and forms a larger pool of job applicants. This is welcome news for SMEs, which frequently struggle to secure the right staff.

4. Policy Implications

4.1. Change in Social Perception

Vocational schools specifically geared toward development of S&T HR still struggle to recruit qualified and talented students. If not plagued by circumstances

such as poverty, promising students typically prefer schools with a more academic bent. Korean society highly values those with higher education (e.g., holders of a bachelor's and above), meaning disregard and undervaluation of vocational education linger. This negative social climate and culture toward vocational education are harmful to S&T HR development.

So what can be done? The Korean government first needs to significantly change the people's negative social perception of vocational education. Meister high schools and world-class colleges, to a certain extent, have succeeded in changing the image of vocational education. By publicizing and promoting the successes and achievements of S&T HR who graduated from vocational schools, a more positive public perception of vocational education will spread throughout Korean society.

4.2. Dual Learning System

Many S&T workers consider going to university and graduate school rather than learning on the job. Vocational school students and graduates often enter vocational schools simply as a means to gain special admission to higher education. In this regard, such people not only waste considerable resources assigned to S&T HR development, but also suffer from the effects of the practical curriculum of vocational schools being incompatible with and ill-prepared for higher education.

If getting S&T HR to stop pursuing degrees is difficult, a better idea could be to acknowledge their desire for higher education and provide opportunities to them to get it. In this regard, the work-learning dual system could play a significant role in that S&T graduates of vocational schools get jobs and continue learning while working.

4.3. Systemic Support

S&T graduates of vocational schools prefer to work for public and large companies and organizations rather than SMEs. In Korea, public companies and government agencies are the most popular choices of job seekers due to major differences in pay and other benefits between large companies and SMEs. Accordingly, students and graduates are highly likely to shun joining SMEs despite receiving strong encouragement to do so.

To persuade more S&T HR to work for SMEs and make the latter a more attractive option for job seekers, systematic support for both vocational education institutes and their students and graduates is sorely needed. First, a crucial measure is outsourcing S&T HR management as done in Silicon Valley, given that typical SMEs in Korea lack sufficient expertise in S&T HR management. The most desirable

outcome of such outsourcing is enhancement of professional career development and management of S&T HR. Through the proper career development and management, S&T HR could improve their employability and chances to enter public and large companies and organizations. Second, financial support and a mileage system are a must to attract quality students and graduates from vocational schools. The mileage system could have employee mileage accumulate based on organizational tenure while they would lose mileage after leaving a job or retirement.

4.4 Competency-based HR Management

Another major obstacle for vocational education in Korea is the reluctance of public and large companies and organizations to hire S&T graduates of vocational schools. The prejudice toward such people partly stem from the few tools available to evaluate competency of such graduates. Vocational school students and graduates are often disadvantaged because certification processes and systems are based on traditional curriculums (i.e., students at Meister high schools are ineligible to gain certification in their fields of expertise).

To alleviate this problem, one suggestion is to assess and select S&T HR from vocational schools based on their competency rather than academic degree. Korea's National Competency Standards (NCS) debuted in 2002 to base hiring decisions solely on a candidate's competencies. Through the NCS, the selection process begins by setting competency and evaluation criteria to clearly place the focus not on skills and potential but on competencies. This has greatly benefited vocational school students and graduates.

After introducing NCS-based selection processes, 27 high school graduates and 50 junior college students were hired among 140 new employees in public organizations. This was a major break from the past, when few with just a high school diploma or junior college degree were hired.

Market Access: Public Procurement and Export

1. Overview of Domestic Market Access Policy and Institutions
2. Public Procurement System
3. Overview of Export Policy and Institutions

Market Access: Public Procurement and Export

Kabsoo Yang (Korea Federation of Small and Medium Business)

Summary

The expansion of SME product purchases by public organizations is a boon to SME production activities and competitiveness. The world's major SMEs are resorting to aggressive export efforts to overcome the limitations of the domestic market and expand sales. So the Korean government is implementing diverse and powerful policies for expanding public purchasing and export support for SMEs.

A number of public procurement systems mandatory for public agencies require them to buy SME-made products. The public procurement system for SMEs is categorized into three sectors: purchase target percentage system, competition among SMEs and priority purchasing of SME products. The latter sector requires priority purchasing of products made by both SME technology and micro-enterprises. Korea has raised its support for SMEs by having the public sector buy more than 70 percent of its purchases through the public subsidy system. So the UAE government is recommended to resolutely promote the introduction of the SME competition system and priority purchasing of technology development products. A promising development is the expansion of the e-procurement system under development in Dubai.

The Korean government also has policies for export support, ranging from the planning to implementation stages. Export support policies includes education, consulting, market research, matching buyers with suppliers, acquisition of overseas

certifications, participation in overseas exhibitions, and assistance in trade finance and patent disputes. In particular, a variety of trade insurance systems seeks to reduce the credit risk of SME exporters arising from the risk of breach of contract, default or delay or rejection of payment by importers. Trade insurance is either long or short term based on two years, and various forms of trade insurance are offered. Also, insurance for foreign exchange fluctuations is provided. Thanks to these pro-export policies, Korean SMEs are continuously increasing their exports and more companies are eyeing exports from the startup stage. Government support for matching buyers with suppliers and participation in exhibitions abroad has been hailed as a successful policy in that Korean SMEs with weak overseas networks can directly meet good buyers. For export and trade insurance policy, export education that meets the SME characteristics of each UAE region is strongly recommended, as well as an incubator to support localization elsewhere in the world. And the UAE should also expand its trade insurance policy to minimize trade risk. In preparation for the post-oil era, the UAE must expand its public procurement and export support for SME products.

1. Overview of Domestic Market Access Policy and Institutions

Marketing is a major challenge for most SMEs. Lack of internal capacity and resources precludes smaller companies from simultaneously performing both primary and support operations, and consequently, marketing is often eschewed for other activities. Furthermore, SME-manufactured goods are commonly overlooked in the domestic or overseas markets regardless of product quality or competitiveness. These factors, which can affect markets for private exchanges as well as public procurement, create inefficient markets where SMEs and buyers forego mutually beneficial transactions. Setting aside product quality issues, the government's primary role in facilitating market access is compensating for these market failures.

The development of Korean regulations and institutions evince an ever-growing interest in expanding SME access to the aforementioned markets. To promote industrialization, efforts went toward overhauling the legal framework for SME promotion. The Small and Medium Cooperatives Act of 1961 reorganized SME organizations as special corporations in an effort to more efficiently utilize policy instruments. The fifth revision of the Korean Constitution in 1962 also included a clause in Article 15 stipulating "The state shall foster cooperatives founded on the spirit of self-help among farmers, fishermen, and small and medium businesses."

To pursue the goals set forth in the newly revised Constitution, the Framework

Act on Small and Medium Enterprises was enacted in 1966 to systemize SME promotion and provide a legal basis for preferential measures for SMEs. This was followed by the Small and Medium Enterprises Promotion Act in 1978, which sought to help develop SMEs and protect smaller companies from being coerced by larger ones, and the eighth revision to the Constitution in 1980. In addition to mentioning SME cooperatives in Article 15, Paragraphs 3 and 5 of Article 123 were changed to explicitly state “The state shall protect and foster small and medium enterprises.”

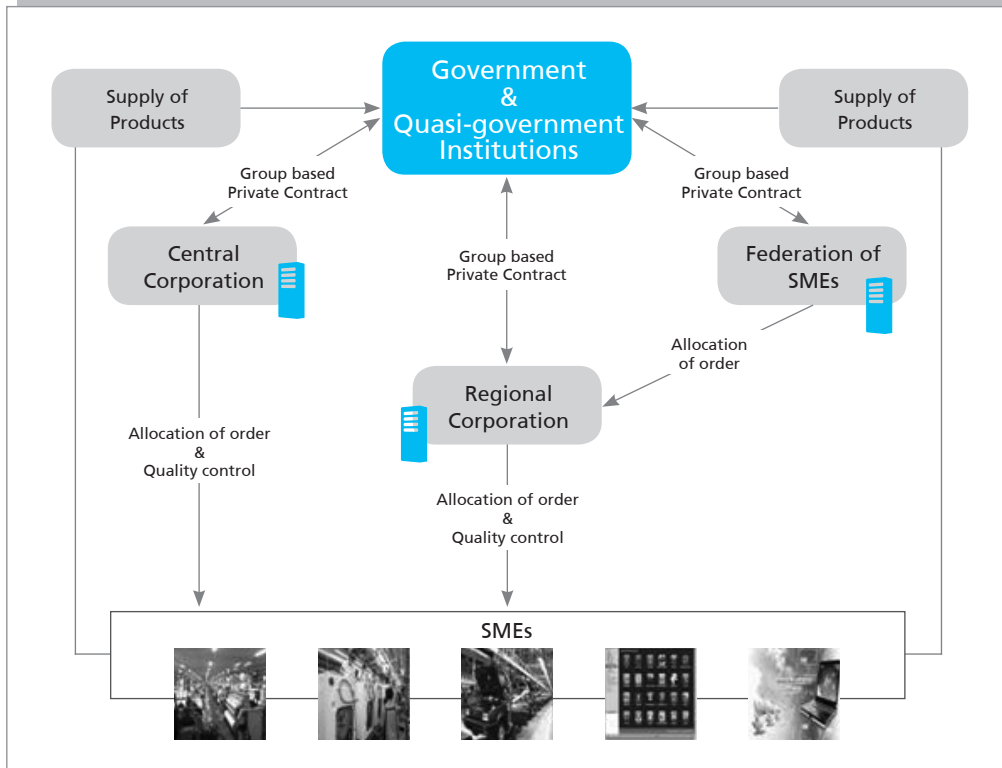
To endorse public procurement of SME products, the Group-based Private Contracts System (GBPCS) of 1965 required public agencies to sign group-based private contracts with SME corporations or cooperatives. Likewise, the Act on Facilitation of Purchasing Small and Medium Enterprise-manufactured Products was legislated in 1981 to further promote purchases of SME-made products by the public sector.

More recently, Korea has also focused on incentivizing SMEs to upgrade their capabilities and competitiveness by amending regulations on facility investment and easing restrictions on domestic competition. The Industrial Promotion Administration was replaced by the SMBA in 1996 to better implement SME-related policy, and in response to the 2008 global financial crisis, Korea’s Lee Myung-bak administration reinforced public purchases of SME-manufactured goods.

The GBPCS, which allowed public institutions to form group-based private contracts with SME cooperatives, required several government bodies to perform a variety of functions. The SMBA designated and released a list of products for which the GBPCS was to be applied, and upon receiving this list, the Korea Federation of Small and Medium Business (KBIZ) was responsible for identifying and recommending products for purchase to the SMBA. To simplify the GBPC procurement process, the government and public agencies must place orders with SME cooperatives, not individual companies. The cooperatives are also entrusted with apportioning orders to their members and controlling product quality.

The GBPCS was first applied to 181 SME-manufactured products in 1965. This number peaked at 1,474 in 1983 and eventually decreased to 95 when the system was scrapped in 2006. The number of participating SMEs peaked at 13,002 in 2003. In 2004, purchases of SME products through the GBPCS accounted for 70 percent of government procurement.

[Figure 4-1] Public Procurement Processes Under Group-based Private Contract System



Assessments of the GBPCS were generally positive for the majority of its existence, yet the government decided to dismantle the system in 2006 for several reasons. The SME cooperatives responsible for distributing orders to members abused their privileged status by conducting side deals and excluding new companies from participation. SMEs with insufficient manufacturing capabilities engaged in extortion and earned profits by subcontracting orders to smaller companies. Perhaps most importantly, however, scholars and public officials began criticizing the GBPCS for being neither economically efficient nor appropriate as free trade agreements began opening the Korean economy to global competition. The system was essentially deemed incompatible with Korea's goal of strengthening SMEs through competition.

2006 signaled a paradigm shift in government policy toward SMEs. Institutional processes initially designed to shelter SMEs were replaced or reformed to support a more competitive environment. Though laws were first passed in the mid-1990s to allow for competition between SMEs in the B2G (business-to-government) market, Korea began to contemplate competitive bidding only after scrapping the GBPCS. The resulting system, which is managed by the SMBA, handles procurement by first accepting lists of candidate products from SME federations. The SMBA decides

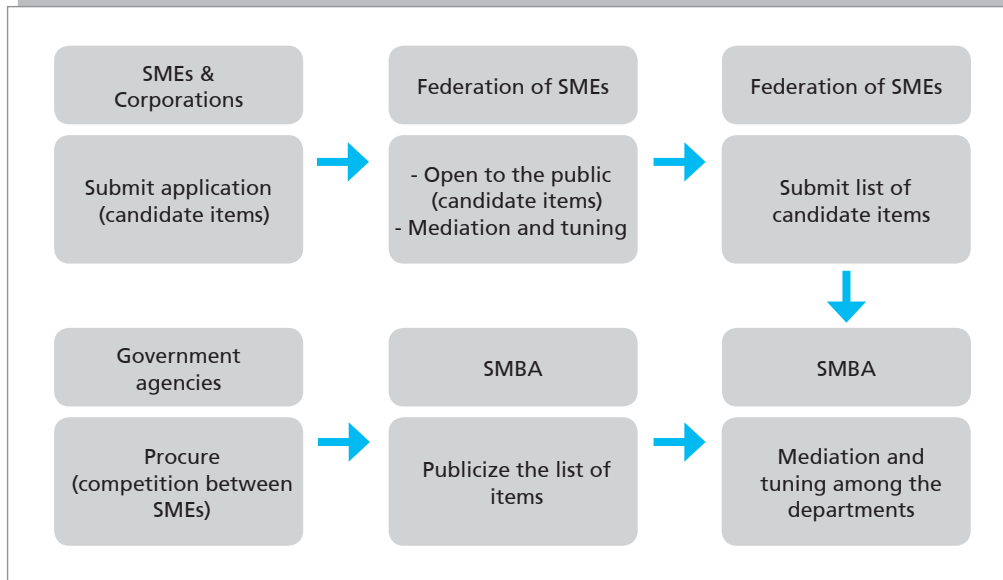
and announces the items to be procured, and large companies are barred from the bidding processes for these items. As a result, competition is fostered among SMEs, not between SMEs and large corporations.

Korea's target percentage system for government purchases dictates that over half of public procurement must comprise SME-manufactured products, and of those goods, a minimum 5 percent must have had SME-developed technologies used in their production. In 2006, procurement plans for 121 public and semi-public institutions were included as Korea's targets worth an estimated KRW 56.6 trillion and accounting for 67 percent of procurement that year. Goods based on SME technologies accounted for KRW 1.7 trillion.

The Excellent Performance Certificate (EPC) program assesses product quality and allows goods to be included on lists for preferential procurement. The government's Performance Insurance System (PIS) guarantees EPC-certified items by compensating buyers for damage incurred due to these items. The system Preferential Procurement of Products Developed by SME Technology additionally requires government and public organizations to allocate over 10 percent of procurement to specially certified SME products. These certifications, which are issued by the SMBA and authorized agencies, are regularly given to high quality goods that feature novel technologies developed by SMEs.

In addition to competitive bidding, systems have been introduced to support fairness and efficiency in procurement. To improve the allocation of procurement orders when information on SME capabilities is lacking, a new system was assigned to evaluate companies in four weighted categories. The score for bidding price, an assessment criterion accounting for 55 percent of a company's final grade, maxes out at 88 percent of the offered price to prevent excessive declines in contract prices. Business performance, technology status and previous record of delivery, meanwhile, account for 30, 10 and 5 percent of the total score, respectively. Assessment standards allow up to three points to be added or subtracted based on a company's credibility, while bankruptcy or other reasons to doubt a company's ability to honor contracts could result in a 30-point reduction.

[Figure 4-2] Public Procurement Under Competitive Bidding System



To prevent domination of competitors by offering unreasonably low prices for contracts and then subcontracting these orders to smaller, lower-tier companies, the production capabilities and facilities of SMEs are evaluated. Though the SMBA provides general criteria for evaluation, SME federations modify these standards to better fit the relevant characteristics of products and industries. If the federations and companies clash over evaluations, the SMBA performs a direct assessment. For select construction materials that account for more than a certain percentage of construction orders, the system Direct Procurement of Building Materials requires public institutions to purchase these items from SMEs. This system aims to protect SMEs in construction from large companies that unfairly leverage their positions in industries.

The Public Procurement Information System provides essential information to SMEs and government agencies alike. Data on registered SMEs and their products and production capacities allow Korean authorities to determine eligibility for benefits under various programs. For SMEs, the system provides valuable information on procurement orders, competitors and the bidding process. Though SME federations maintain the system, transparency and openness are secured via the supervision of the Public Procurement Service of Korea.

To improve B2B (business-to-business) markets, Korea's initial efforts focused on setting effective rules and systems for subcontracting. The SME Subcontracting Promotion Act of 1975, for example, specified the duties of large corporations in contracts with SMEs. These explicit responsibilities were accompanied by

recommendations pertaining to contracts such as reasonable delivery terms, fixed prices and fixed terms of payment.

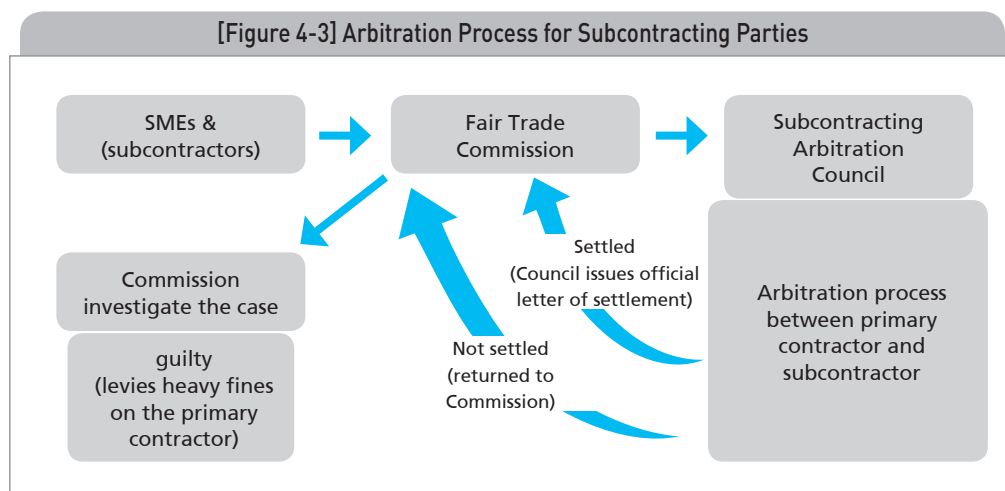
Furthermore the SME Subcontracting Promotion Act empowered the Ministry of Trade and Industry to select items to be produced exclusively by SMEs. Of the 1,160 items chosen by 1991, most were from Korea's machinery, transportation equipment and electronics sectors. While large companies were prohibited from expanding their existing production for these goods, the law encouraged such companies to transfer facilities and subcontract with SMEs. As a result, the percentage of SMEs in contractual relationships with large corporations jumped from 30 percent in 1980 to 74 percent by 1992.

Newly established manufacturers of SME-only products qualified for startup support and tax incentives, a 50-percent exemption from corporate income taxes for the first three years and 30-percent exemption for the subsequent two years. Similar tax breaks were also extended to primary companies, and when the latter provided technical assistance to ancillary companies, 10 percent of associated costs could be deducted from their corporate income tax. Equipment and facilities acquired for use by subcontractors received an investment tax credit of 8-10 percent depending on whether the items were domestic or imported.

Contracts between major companies and SMEs suffered from a number of problems in the 1980s. Since large corporations primarily agreed to subcontracting arrangements for cost reduction purposes, high-value items were primarily self-produced or imported while only low-value goods were assigned to SMEs. For small ancillary companies lacking bargaining power, contracts were often unfair. The Fair Subcontracting Promotion Act of 1984 sought to promote fairness between contractors and subcontractors. The responsibilities of primary companies were expanded to include the issuance of official agreement forms and receipts, payments within 60 days of delivery, prompt and unbiased inspections of delivered products, and official letters to promptly announce inspection results. Unjustified discounts, unreasonable fixation of payments and unwarranted reductions or terminations of orders were subsequently banned.

To help parties reach equitable arrangements, the Fair Subcontracting Promotion Act recommended a standardized form for subcontract agreements that contains the exact order and payment dates, terms of payment, methods and timing for inspections, quality assurance conditions and guarantees for timely delivery. Regular surveys of practices, particularly on terms of payment, price fixation and notifications of inspection, were mandated for Korea's Fair Trade Commission and Ministry of Trade and Industry. The use of corrective measures when unfair practices were discovered was assigned to the commission.

Organizations supporting fairness in subcontracting also include KBIZ (Korea Federation of SMEs) and the Associations of Subcontracted Suppliers. KBIZ operates three relevant bodies. The SME Subcontracting Council provides guidance on contracting issues while the Subcontracting Exchange Center offers information on companies and suppliers seeking arrangements with SMEs. KBIZ's Dispute Arbitration Council resolves conflicts between parties by commencing arbitration procedures. The Associations of Subcontracted Suppliers, meanwhile, is a group organized by suppliers of major contractors to share information on cost savings measures and quality improvements. It has also aided joint product development and procurement of raw materials and cooperative use of inspection and testing equipment. The formation and dissolution of associations are reported to the SME Subcontracting Promotion Council.

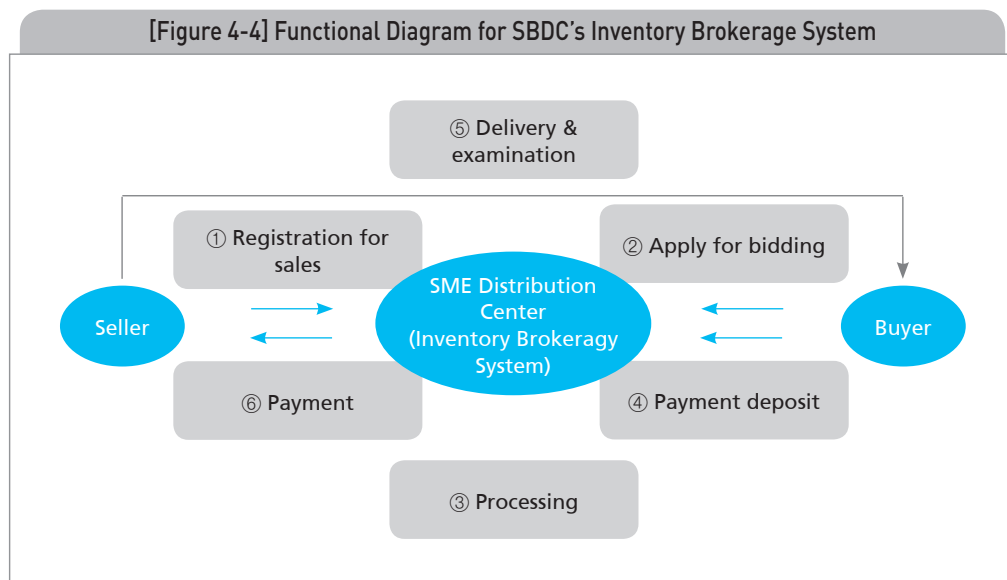


Recent efforts to enhance B2B markets have centered on fostering links between SMEs and major companies. Though many studies have credited Korea's corporations for driving exports, job creation and rapid economic development, a downward-sloping growth rate and expanding gap between large corporations and SMEs have convinced Korea that its original growth model will no longer suffice. Consequently, several administrations have pursued a new strategy to stimulate "mutual growth" by facilitating collaboration and equitably distributing the gains from cooperative activities.

The National Commission for Corporate Partnership (NCCP) was established in 2010 to examine conflicts between large corporations and SMEs, nurture a culture of corporate partnership and alleviate social polarization (NCCP 2012). The commission has one chairman, nine representatives from major conglomerates (e.g., Hyundai, Samsung and LG), nine from SMEs and six from the public sector.

Its principal activities consist of selecting SME-only products and sectors, evaluating corporate partnerships and assessing public agencies. By banning large businesses from producing select goods or entering certain industries for three years, the NCCP hopes to put the brakes on excessive corporate expansion while giving SMEs a better chance to grow competitive in low-technology, low-value-added operations. The commission's evaluation of corporate partnerships is also reported as part of the Win-Win Index, a convenient gauge of business performance as well as SME satisfaction. The measure is applied to 74 large companies from six business sectors. Finally, assessments similar to the index are conducted on public sector partnerships with SMEs, and the government's decision to expand certain organizations is often based on the NCCP's ratings.

As for B2C (business-to-consumer) markets, Korea has sought to assist SMEs in market access and marketing activities. The Small Business Distribution Center (SBDC) was founded in 1995 with an initial investment of KRW 100 billion from the SBC to promote SME products to domestic consumers. Online shopping sites and offline department stores were added to the SBDC's operations in 1999, and MOUs were signed with major international distribution and logistics companies to support the organization's initiatives. More recently, the SBDC invested in Home and Shopping, a TV channel dedicated to selling SME-made goods. And the Inventory Brokerage System, one of the SBDC's most salient features, has allowed SMEs with excess inventory to connect with potential buyers online.



Maintaining consumer satisfaction is as crucial as initial sales in improving long-term B2C relationships, so the Corporate SME Aftersales Center was created in 2009 on behalf of SMEs. Though services mostly pertain to product instructions, purchases, exchanges and reimbursements, participating SMEs can also use the center's networks, data handling systems and equipment free of charge. Warranty periods can be extended to a maximum of five years.

SMEs without proper aftersales service can apply for services provided by the center's aftersales service agencies. SMEs, however, must operate manufacturing facilities in Korea and produce consumer goods in one of six industries: "wellbeing appliances," ordinary home appliances, PCs, multimedia products, car audio-visual gear and lighting equipment. Only aftersales service agencies equipped with national networks are selected as service providers, and in addition to traditional customer services, educational programs and data-based analysis of customer claims are offered.

Lastly, two programs have stood out for enhancing SME marketing capacity. The Corporate Brand Project helps SMEs develop and promote joint brands when five or more makers of identical products apply for assistance. The project funds up to 70 percent of costs for brand development and advertising. Meanwhile, HIT500 promotes SME-made goods online through coalitions with SMEs and buyers. The program not only helps companies create websites and provides exhibition spaces to showcase products, but also uses consumer assessments and new product groups to conduct buzz marketing and experimental advertising. SMEs that manufacture consumer products are eligible for participation, and companies with under three years of operating experience receive preferential consideration.

2. Public Procurement System

2.1. Utility

The Korean government manages a public procurement system to raise the procurement of SME products by the public sector, and this offers stable marketing routes to SMEs. Public procurement support for SME products has several benefits.

Sales growth is the most important factor for any business to survive and grow. Every company in a market economy has value when it can sell the products or services it produces. If a company fails to achieve a certain level of sales for its products or services, it will decline or eventually shut down. This is not the case only for general companies, but also for public institutions such as government agencies. If consumers do not purchase or use a product or service, the corporation

or public institution can no longer exist. The same goes for a commodity offered by a general company or a service provided by a public institution. So support for SMEs that utilize public purchasing power is both useful and crucial, especially companies whose marketing ability is relatively low.

The SME product purchasing system leads to a virtuous circle of higher output and employment. The expanded purchases of SME products by public institutions are helpful for strengthening SME production activities. As demand for SME products rises, SMEs will earn more income from product sales and this will subsequently boost employee income. As such income rises, so does employee spending. Then SMEs bolster facility investment and employment as the market expands. This, in turn, leads to an increase in corporate revenues that fuels a virtuous cycle of higher levels of worker income and consumption.

The size of the Korean public procurement market is massive. The purchasing power of Korean public institutions exceeds 11 billion USD annually, or more than a quarter of the government's annual budget of 40 billion USD. Given its high value, this market has the potential to serve as the key market for SMEs.

This lucrative market can also lead to numerous networking and growth opportunities. All contractual acts of public institutions must follow the procedures and methods set forth in relevant laws and regulations. So public institutions do not choose price as the top priority, unlike general consumers do. Rather they pay the right price. So the public procurement market is highly attractive for SMEs reeling from severe price competition in the private market. In addition, the experience of SME suppliers of products to the public sector in the public procurement market, where stable quality and performance of products are required, can serve as an important opportunity to open delivery channels to other public institutions.

The SME product purchasing system is the best method of assistance that does not cause market disruption, unlike other support policies. Public procurement policy that supports SMEs by utilizing their own purchasing power is an example of very few policies that does not distort the market. Under this policy, public institutions simply buy necessities from SMEs and make expenditure that they would have made anyways. Other general financial support policies, through which government artificially funds SMEs, may cause side effects such as inflation if excessive funding is provided.

2.2. Status of the System

Purchases of SME products in the Korean public procurement market account for 5.5 percent of GDP. The domestic private market is valued at 1.3 trillion USD, and

the public procurement market 100 billion USD. In this market, large corporations supply about 30 percent and SMEs 70 percent. As a result, the size of this market related to the purchase of SME products is 5.5 percent of GDP. In 2015, combined public purchases totaled 119.2 billion USD, of which 85.5 billion USD was spent on SME products. As a result, the ratio of purchasing SME products was 71.7 percent.

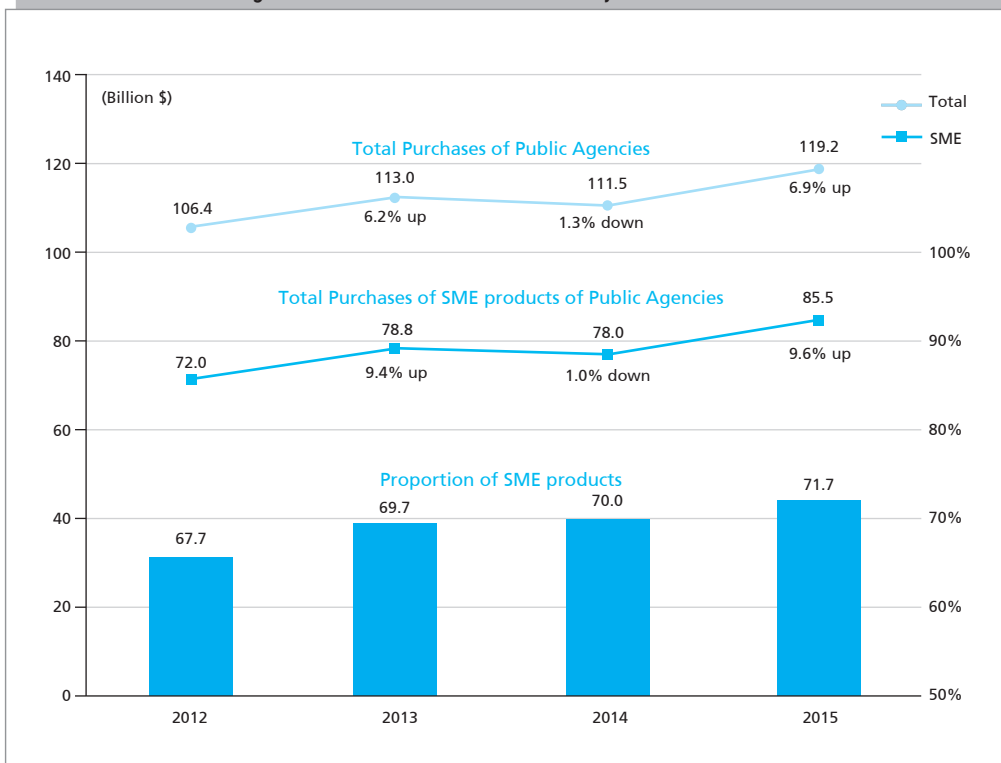
〈Table 4-1〉 Proportion of Public Purchasing of SME Products

	2013	2014	2015
Total public purchases (A)	113	111.5	119.2
SME products purchases (B)	78.8	78	85.5
Ratio (B/A, %)	69.7	70.0	71.7

Source: Small and Medium Business Administration (SMBA).

Total purchases by public agencies are rising an average of 3.9 percent per year, but those of SME products by public agencies are gaining an average of 6 percent per year.

[Figure 4-5] Purchase Trends of SMEs by Public Institutions



2.3. Three Sectors of System

Korea has a number of legal systems that require public agencies to buy SME products. Generally, public institutions purchase necessities in accordance with the National Contract Law and Local Contract Law. The Korean government, however, has a special law on purchasing SME products called the Act on Product Purchasing and Sales Channel Assistance to Promote SMEs.

A separate statutory system is also available to expand the purchasing of women's products and items for the disabled. The Act on Business Support for Women seeks to assist female entrepreneurs and the Act on Supporting Corporate Activities by the Disabled is intended to help the disabled do business.

The public procurement system for SMEs is categorized into three sectors.

2.3.1. Purchase Target Percentage System

The purchase target percentage system consists of the SME product goal, technology product goal and product goal for women's business. Each year, public organizations at each level set targets for purchasing SME products and report the results of the previous year to the Small and Medium Business Administration (SMBA). The objectives and results of SME product purchasing as reported by public organizations of various levels are then briefed to the Cabinet.

2.3.2. Competition among SMEs

In principle, the competition system for SMEs requires government agencies of all levels exclude large corporations and purchase SME-made products via competition among SMEs. Through these public procurement methods, SMEs with insufficient marketing capabilities can get help to secure a minimum market share. In addition, several complementary systems are being implemented to more effectively achieve the purpose of SME support. They include systems for self-production verification, direct purchase of construction material and contract performance review. The Self-Production Verification System prevents SMEs who have secured opportunities for getting orders from the public sector through inter-SME competition from buying products from other companies without self-production activities and to receive only intermediate profits. The direct purchasing system for construction materials helps SMEs that produce construction materials to avoid undue subcontract damage from builders. The contract performance review system verifies the feasibility of prices offered by SMEs to prevent excessive dumping in the competition among SMEs.

2.3.3. Priority Purchasing of SME Products

The priority purchasing system for SME products focuses on SME technology products and micro-business products. The use of the purchasing power of public institutions can greatly help SMEs sell their products as well as encourage SMEs to strengthen their competitiveness. To achieve this goal, the government is helping SMEs purchase high quality products based on their technological knowhow. Products with superior technologies include those with certified performance and others of NEP, NET and excellent procurement. For these products, a public agency can sign agreements in the form of sole-sourcing contracts. If the amount of public procurement is concentrated on relatively larger mid-size corporations, priority in purchasing rights will go to the products of smaller companies or micro businesses when the amount is under KRW 50 million. In the case of a contract with a relatively small amount, it will provide opportunities for small businesses and micro business owners with weak marketing capabilities.

2.4. Method for each system

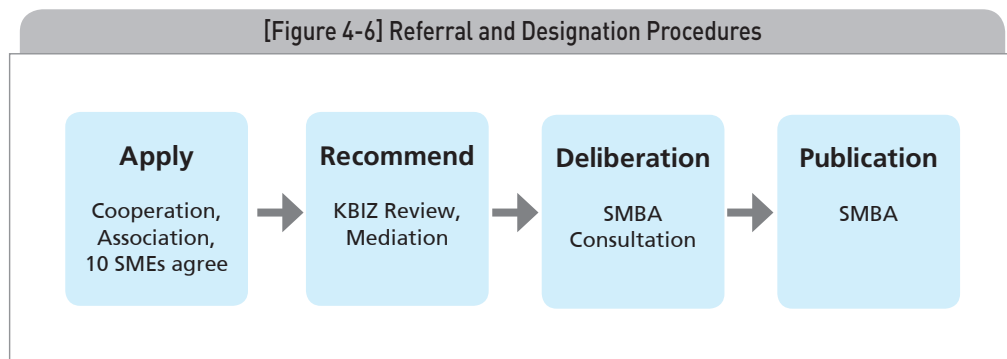
2.4.1. Purchase Goal System

At least half of overall purchases by public institutions should be from small businesses. Korea has nearly 800 public agencies. Every year, the Small and Medium Business Administration (SMBA) and KBIZ inspect each agency to assess the SME product purchase goal and the previous year's purchasing performance. Each agency determines the percentage of SME product purchasing goals to match its characteristics and strives to achieve them. Most public institutions set a target rate of 50 percent or more, with some that purchase up to 90 percent. Other agencies cannot achieve the 50-percent mark in purchasing due to the nature of public institutions. In managing SME product purchasing goals and performance, 10percent of all SME product purchases must be for technology development products and the minimum for women's products is 5 percent. Especially for technology developed products, the SMBA encourages active purchasing by public organizations of all levels. If an SME so wishes, the SMBA encourages a specific public agency to actively purchase the products of the SME in question.

2.4.2. Competition System among SMEs

The SMBA specifies which products SMEs will compete for and sets basic criteria for the products. At least 10 SMEs must produce and supply the products directly and the purchase volume by public institutions of the products must exceed a million USD per year. When SMEs apply for the requirements, the SMBA collects opinions from related departments through its recommendations and announces

the target products. Since the participation of large corporations or retailers is limited when they are designated as competition products among SMEs, the main decision of the SMEs is to collect opinions of stakeholders collectively when reviewing the recommendations. As a general rule, the competitiveness of products subject to competition among SMEs is valid for three years, and as of March 2014, 204 products were designated.



2.4.3. Verification of Self-production Ability

The government must verify if SMEs can produce things themselves. For SMEs wishing to supply public institutions, checks are needed on whether they have adequate production facilities, personnel and appropriate qualifications according to recognized standards. The validation criteria are a manufacturing plant, major appliances, equipment and a minimum number of staff required for production. The survey was conducted by the Federation of SMEs, which hired experts who work in cooperatives in each industry for research. As a result of the survey, SMEs that meet all the criteria will issue a direct production certificate. And even after this certificate is issued, the production process must be continuously monitored. Even a certificate holder should not buy another company's product after handling the public institution's order, as well as not send it to another company for production. For SMEs guilty of violating this rule, their certificates are automatically revoked and reissue is restricted for six months. Public agencies check SME self-production on all bids between SMEs or private contractors worth more than 10,000 USD.

2.4.4. Direct Purchasing of Construction Material

Public agencies make direct purchases of construction materials for use in SMBA-designated construction orders of a given size. The public sector requires a direct purchase system for general construction work worth more than 2 million USD or professional construction of above 300,000 USD. The main material for direct purchasing must be worth 30,000 USD. Instead of purchasing all materials

above this amount, the intent is for the construction materials to be designated competition products for SMEs. The materials subject to direct purchasing are also determined through consultations with stakeholders such as those in construction.

2.4.5. System for Evaluation of SME's Contract Performance

Public agencies screen the contract capability of SMEs to exclude the threat of dumping and guarantee 88 percent of the initially planned price. According to the following criteria, the lowest price offered by an SME that earns a minimum of 88 out of 100 points is declared the winner. In contracts exceeding a KRW 1 billion in value, the score for contract performance ability is 45 and that for price 55. In contracts under KRW 1 billion in value, the respective scores are 30 and 70 points, respectively. Public institutions should select a winning with the lowest price but that still has at least 88 points. This method plays a key role in ensuring that SMEs receive a reasonable price when taking part in competitive bidding with other SMEs. This is because receiving more than 88 points is impossible if the price is lower than 88 percent of the initial bid.

[Figure 4-7] Criteria for Examining Contract Honoring Capability

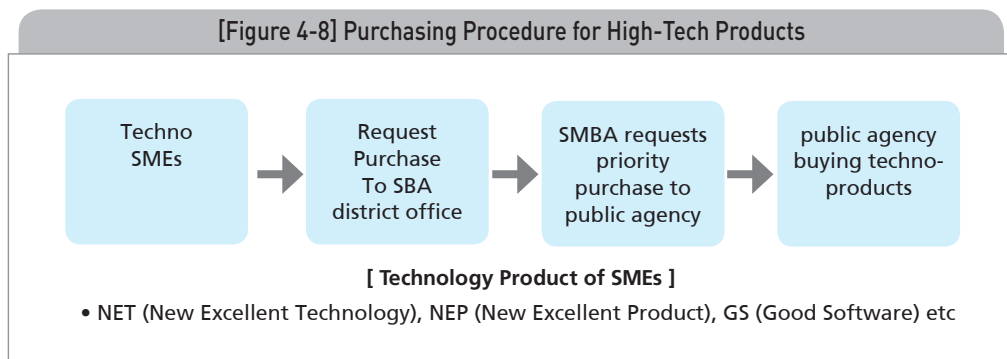
	① Delivery Capa	② Bid Price	③ Reliability	④ Disqualification
Over 10Billion bld	Delivery Performance, Credit Rating (45Points)	(55Points)	(+) Technology, Design Certification, Quality Guarantee (-) Delivery Delays (+3 ~ -2)	Bankruptcy (-30)
Under 10Billion bld	Credit Rating (30Points)	(70Points)		

2.4.6. Competitive System among SMEs of Similar Size

This system is used to limit excessive competition and provide small and micro business entrepreneurs with better opportunities to win orders. For products that require additional support for small businesses, just a few businesses are allowed to participate in bids based on contract size. Public agencies determine a bid's size by company size. This system, however, has seen little use except in rare cases. In addition, small business owners who seek big contracts are getting few responses. So in a nutshell, this system is largely ineffective.

2.4.7. Priority Purchase System for Technology Products

Technology development is a major driver of SME competitiveness, and thus this system requires active use by public institutions. SMEs producing high-technology products that meet standards can ask the SMBA to request public institutions to make active purchases.



A public agency that receives a purchase request from the SMBA must clearly reply as to the possibility of the purchase. Technology developed products must also account for at least 10 percent of all purchases of SME-manufactured goods by the public sector. So the priority purchasing system for technology developed products is considered highly effective.

2.4.8. Public Purchasing Information System for SMEs & Public Agencies

This system provides the following information:

- SME information - output capability, personnel, technology certification, credit rating
- Publishing certificate - self-production capability, company size, business for women or disabled
- Product information - Technology products, products in bidding competition among SMEs
- Bidding information - bidding information of public agencies
- Purchasing plan and results of public agencies

Introduced in 2006 and operated by KBIZ, this information system is utilized by public officials at every level to check SME information from time to time.

2.5. Policy Implications of Public Procurement

2.5.1. Operation of Competition System

To set the foundation for the continuous growth of the UAE economy ahead of the post-oil era, the development of sound SMEs is essential. Korea, which has pursued the development of several major corporations, recognizes that augmenting the competitiveness of SMEs is essential for stable economic development.

The UAE also needs a competition system for SMEs so that the latter can secure a stable market by utilizing strong government purchasing power. With the proper support and guidance, SME manufacturers in the UAE will secure a stable supply of the public procurement market and eventually contribute to the formation of a sound economic structure.

2.5.2. Priority Purchasing System for Technology Development Products

Technological competitiveness is a key driver of growth for a global company and improving a nation's economic structure. Korea is striving to improve the competitiveness of its SMEs through priority purchasing and target rate systems.

The UAE government is advised to encourage the continuation of technological development efforts through a system in which the central government actively purchases high-tech products developed by SMEs. Substantial advances are expected in the technological development efforts of UAE SMEs and their overall competitiveness should increase.

2.5.3. Expansion of Public Procurement Information Network

To raise the public sector's interest in SME products, the proper environment for providing accurate information about companies and products is critical. Korea has more than 20,000 public agency purchasers running so-called public procurement information networks and country marketplaces to ease searching for and purchasing company and product information.

Another vital task is to expand the national e-procurement network being built by the UAE government to allow easier connections between small businesses and public institutions within the country. This network is highly anticipated to jumpstart public purchasing of SME products in the UAE.

3. Overview of Export Policy and Institutions

The world's major SMEs are resorting to aggressive export strategies to overcome the limitations of their domestic markets and expand sales. In the case of Korean companies and their saturated domestic market, overseas business from the start-up stage is key to achieving continuous growth. Exports have been the traditional driver of economic growth in Korea as the country lacks natural resources and its domestic market is small. So an export-first policy has dominated Korea since the 1970s. The Korean trade minister in 2016 said, "Let's do our best to increase exports."

SMEs, however, face a number of obstacles in expanding exports and being active overseas. According to one survey, they face difficulty in promoting exports due to lack of professional staff, export operating funds and information on export support systems. Other problems are a dearth of overseas market information and insufficient preparation for certification in target markets.

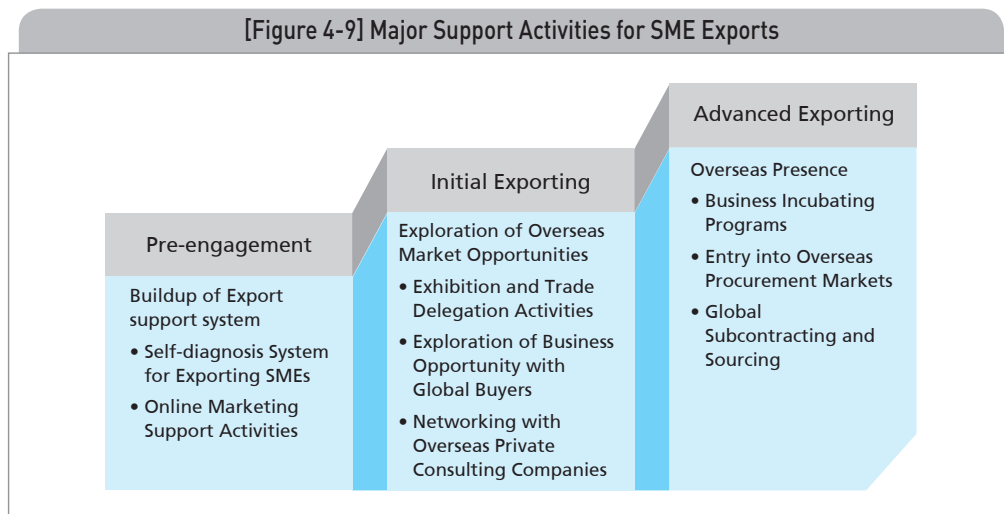
〈Table 4-2〉 Difficulties of Exporting SMEs

	Difficult Ratio
Internal Factors	
• Lack of specialized personnel	68.9%
• Lack of export operating funds	67.9%
• Lack of knowledge about export support system	65.7%
External Factors	
• Lack of information on overseas markets	63.5%
• Unprepared for foreign specifications & quality certifications	61.3%

Source: Korea International Trade Association (2014), Trade Focus.

For Korea, promoting the exports of SMEs is considered an essential aspect of boosting globalization overall. This drive has seen public organizations, ministries and provincial governments adopting initiatives to support overseas marketing for SMEs. These efforts have included the dispatch of export promotion groups abroad, use of foreign social networks, support for international certifications, export financing and setup of overseas export incubators. The Ministry of Agriculture, for instance, has programs specifically designed to promote agricultural exports from SMEs.

Of the approximately 23 public and private institutions with programs to support overseas marketing, the Small and Medium Business Corp. (SBC) has exercised particular influence. Its major services of consulting, training, marketing and provision of policy funds are differentiated according to internationalization stage. While the SBC's comprehensive activities range from pre-engagement to advanced exports strategies, most SME-oriented functions are concentrated in the pre-engagement or initial export phases.



The Korea Trade Insurance Corp. (K-Sure), originally named the Korea Export Insurance Corp., was founded in 1992 to facilitate trade through export-import insurance. Its export insurance helps businesses by indemnifying losses suffered after export goods and services have shipped. Insurance broadly covers both political (e.g., war, revolution, rebellion, declaration of moratorium and foreign restrictions on imports and currency exchange) and commercial risk (e.g., non-recovery of proceeds or termination due to poor credit, bankruptcy or refusal to pay). The system also insures investments, resource development projects and financial institutions that provide export financing to businesses. K-Sure's policies in 2016 covered a diverse range of clients and 31.7 percent of Korean exports.

K-Sure's import insurance facilitates financing for domestic importers while insuring losses resulting from breaches of contract or non-recovery of pre-payments. From a national perspective, import insurance helps secure major resources needed for Korea's export industries and economic growth. Though K-Sure's services are not solely intended for SMEs, offerings such as short-term export insurance, short-term export credit insurance, agro-fisheries export insurance, and export credit guarantees for both pre- and post-shipments have proven highly beneficial for smaller companies.

〈Table 4-3〉 Key K-Sure Services for SMEs

Short-term export credit insurance	For transactions with payment periods of under 2 years, covers non-payment risks for exporters or L/C-issuing banks.
Short-term export insurance	Covers domestic and foreign financial institutions that provide importers with loans (i.e., buyer credit) to pay for export proceeds; 60 percent of insurance premiums expected to be paid within 30 days of insurance's opening date
Agro-fisheries export insurance	Covers losses for cases in which exports of domestically produced, processed or collected agriculture, fish or livestock is impeded after export contracts are concluded; program also insures parties when export proceeds cannot be collected and price fluctuations cause losses despite adequate implementation of contracts
Pre-shipment export credit guarantee	Designed for use as security by exporters when securing trade financing from banks based on export guarantees
Post-shipment export credit guarantee	Insures cases in which importers default on payment by serving as security for exporters who receive proceeds early from banks

Along with the SBC and K-Sure, the Korea Trade-Investment Promotion Agency (KOTRA) is responsible for assisting SMEs in export activities and going global. Established in 1962 as part of Korea's first plan for national economic development, KOTRA was initially tasked with exploring new export markets and stimulating trade. It also helped Korea overcome the 1997-98 Asian financial crisis by launching a foreign direct investment (FDI) promotion division. Over the past 50 years, its network has grown to nine domestic offices and 119 Korean Business Centers (KBCs) in 81 countries.

KOTRA has no programs exclusively for SMEs, and most of its programs are geared toward companies in relatively advanced stages of trade operations. Yet KBCs have served as overseas branches for Korean exporters and perform various functions such as joint logistics support, planning for international trips and exhibitions, and one-on-one assistance in finding customers abroad. From data obtained through KBCs, KOTRA's information services provide valuable materials on Korea's trading partners as well as forecasts for overseas markets.

Aside from KOTRA's standard consultation services for international marketing, overseas expansion has recently gotten a boost from initiatives to form partnerships between Korean SMEs and global companies through R&D marketing channels. Additionally, up-and-coming industries with potential such as cultural products and bio-medical services are receiving special assistance.

3.1. Export Promotion Program

To help SMEs resolve their export problems, the Korean government has set up support systems from the planning to implementation stages. They include export education and consulting, research on target markets and assistance in finding overseas buyers for direct export consultations. The Korean public sector also supports the acquisition of overseas certifications, participation in exhibitions, financial support and responses to patent disputes.

A number of public organizations in Korea offer support programs for SMEs depending on export stage. The following are just a few examples.

3.1.1. Export-oriented Startups

Korea's Small and Medium Business Corp. (SBC) runs a program for improving the export knowhow of SMEs. Those with export volume of under 1 million USD are eligible for this program. The first area of support is export preparation and marketing activities for entry into overseas markets. Assistance is also offered in trade education, interpretation and translation, market research and issuance of international business numbers. This program supports 1,200 companies per year up to KRW 25 million each. And the SBC supports up to 70 percent of the overall cost.

The Overseas Korean Traders Association (OKTA) has a program to connect SMEs with ethnic Koreans abroad and their children who can improve the overseas network of SMEs. The program's goal is to form a human network with Korean buyers active abroad by setting up and managing an integrated information network for ethnic Koreans abroad. Networking events are held twice a year, and the World Representative Assembly is opened in April and the World Korean Businessmen's World in October. SMEs also receive marketing support and information on target markets to promote the companies' overseas expansion. Seminars with successful Korean CEOs are also held, as well as a regional tour by businesspeople by continent.

KOTRA supports startups for the purpose of advancing into global markets. It also helps SMEs find office space abroad and conduct marketing and networking in a target market. Professionals provide regular mentoring and the business model, technology and human resources of start-ups can receive evaluation. A Demo Day announces business ideas to the media and investors after the conclusion of a support program lasting three to four months.

3.1.2. Efforts to Boost Exports

An SMBA program helps exporters prepare for and adapt to free trade agreements (FTAs). The goals are 1) to raise the FTA utilization capacity of SMEs and export growth; 2) support education, consulting and global marketing to raise FTA activity; 3) devise an FTA strategy; 4) implement country-specific management; 5) and offer FTA training. In addition, the SMBA also sets strategies to maximize the use of comprehensive FTAs among SMEs.

The SMBA also runs programs to support SMEs exporting to large overseas distribution channels or directly entering a given market. It also strives to distribute outstanding SME products both online and offline. Online support goes to 2,000 companies a year and offline assistance goes to 500. The SMBA also supports overseas sales outlets in the US, China and Vietnam and makes product pages in global online shopping malls like Amazon (US), eBay (US), Taobao (China), Rakuten (Japan) and Quidan (Southeast Asia).

KBIZ selects Korean entrepreneurs with proven success overseas, appoints them as honorary ambassadors and runs a program to transfer knowhow in advance. SMEs with a proven track record in overseas markets transfer their knowhow and human networks. Forty-eight people from 28 countries are named overseas civilian ambassadors and meetings are held once or twice a year.

The SBC directly connects global buyers with domestic companies or operates online programs to support exports. It also introduces domestic SMEs to global buyers seeking specific products, arranges visits to domestic companies, hires interpreters and sets up export consultations for buyers visiting Korea. The SBC also backs overseas marketing to strengthen export competitiveness, helping 1,350 companies annually.

One KBIZ program dispatches abroad trade delegations composed of domestic SMEs. It also seeks to expand the export base and promote SME exports by dispatching staff for overseas exhibitions, market development and an export consortium focused on professional industry. It has held 170 overseas exhibitions and 20 export consortiums and supports 3,200 SMEs in 85 industries every year.

KBIZ helps SMEs respond to trade disputes such as dumping lawsuits and increases their responsiveness to unfair trade disputes such as those over anti-dumping laws and intellectual property. Other duties include support for the cost of solutions from trade remedy agents. SMEs and cooperatives can also apply for trade relief with the KBIZ Trade Committee. Support of up to KRW 50 million, or within half of the cost of hiring an agent, is another option.

KOTRA and the SBC operate an incubator to enable domestic SMEs to move toward and export their products to major overseas bases. The two organizations also offer office space in 20 major cities in 12 countries to support market development. The deposit and general administrative expenses are paid by the SMEs. The companies are selected as target companies considering the feasibility of the inhabitant activity plan, business propulsion ability, export prospects, business size and workforce.

3.2. Trade Insurance

Trade insurance compensates losses incurred by exporters or financial institutions providing export financing due to credit risk arising from breach of contract, bankruptcy, delay or refusal of payment by importer and emergency risk such as war in the importing country. Ultimately, this export safety system promotes Korean exports.

Since exporters can get compensated for losses incurred from failing to receive export payments, they can seek new markets and diversify export targets by exploring foreign trade or new importers that are at risk.

Financial institutions can also use export security policies or export credit guarantees as collateral for exporters with insufficient collateral to expand support for trade finance and high-risk export transactions.

K-Sure provides 15 insurance systems, two guarantee systems and other services for foreign transactions.

3.2.1. Short-term Support System

This covers export transactions within two years of the settlement period and includes short-term export insurance, export credit guarantee (pre-and post-shipments), and agricultural and marine products export insurance.

3.2.2. Mid- to Long-term Support System

The billing period for export transactions is over two years. The leading forms of insurance are those for overseas investment (stocks, loans, guarantee obligations, rights to real estate), overseas resource development funds, overseas K-Sure, export guarantees, interest rate fluctuations, comprehensive insurance for service (short- and long-term insurance), overseas investment (stocks, loans, guaranteed debt, investment financing, rights to real estate), overseas resource development funds and overseas K-Sure. The settlement period has no limit, but the period is often used in connection with long-term transactions in general.

3.2.3. Currency Fluctuation Insurance

Several insurance products guard against foreign exchange rate fluctuations depending on the bidding or forward exchange method.

3.2.4. Other Insurance Products and Services

Other insurance products include those for cultural exports, credibility, importer credit investigation, overseas bond collection and price fluctuations of raw materials.

3.2.5. Import Insurance

When importing resources or goods important to the national economy such as crude oil, iron and equipment, this system guarantees the risk of recovery of undrawn prepayment burdened by domestic companies or supports the smooth support of the import loan business for domestic companies. Import insurance for importers has a domestic company compensate losses incurred as a result of failure to collect advance payment due to emergency or credit risk though the company has paid the counterparty of the import contract in advance for the import of major resources. Import insurance for financial institutions compensates losses of a financial institution due to failure of a domestic company's loan to be recovered because of bankruptcy, though the financial institution loaned the necessary funds to import the main resources to the domestic importer.

3.3. Policy Implications

3.3.1. Education for Startups

In the case of the UAE, its location at the base of the Middle East makes it more familiar with exports such as those from Korea, but a systematic education system for SMEs is needed to effectively enter the global market. For SMEs in Korea, the effectiveness of education on exports and trade was high since the companies were ill-prepared for export or overseas advances from the beginning.

The KSP has customized export training courses for each government, taking into consideration SME characteristics by region and industry such as Abu Dhabi, Dubai, Sharjah, Ajman and Fujairah. SMEs need better access to training. The adoption of the business export training system is expected to suit the UAE's characteristics and help the country's SMEs develop into globally competitive companies.

3.3.2. Export Incubation Centers Worldwide

The biggest obstacle for SMEs to export and expand overseas is the lack of information or network in the region. Korea has also received many good responses from SMEs through incubation centers abroad to support Korean exports and related activities.

The UAE is also expected to support the localization of its SMEs by building an export incubation center in the area where SMEs want to do business with the government. The UAE Export Incubation Center, to be placed in major world regions, will encourage UAE SMEs to enter the global market.

3.3.3. Trade Insurance

As uncertainty grows in the global trade environment, so does the risk of SMEs failing to receive payments after shipping their exports. In Korea, trade insurance systems help lessen these risks. The UAE is advised to build and expand its trade insurance system that matches the country's characteristics so that trade transactions, such as those on imports and exports, can be conducted with confidence. This will jumpstart exports and imports of UAE SMEs.

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