

2020 K-Innovation ODA Program with Azerbaijan

Policy Consultation on the Promotion of Technology Transfer and Commercialization in Azerbaijan (2nd Year): South Korea's Public Procurement Policy (Appendix)



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CHAPTER 1

Public Procurement System in South Korea

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Chapter 1. Public Procurement System in South Korea

1. Overview of Public Procurement

Public procurement or government procurement is defined as “an official procedure for acquiring goods and services, including facility construction services and public projects, through government agencies.”

It can also be described as an administrative act by government ministries, local governments, and public institutions of procuring necessary supplies through the national budget and implementing public services. Public procurement may also serve different functions depending on a country’s economic environment and the conceptual explanations of public procurement vary across countries depending on their development stage and political and administrative systems.

In the 1960s, for example, South Korea received a large supply of international aid to rebuild the devastated nation after the war, and the country’s public procurement began with the aim of efficiently allocating such aid supplies. In the US, on the other hand, public procurement was first established to efficiently allocate military supplies, and, to this day, the U.S. public procurement market is dominated by the defense sector.

Currently, however, most countries view public procurement as a process of “procurement” or “acquisition” of goods, services, construction, and military munitions needed by government agencies (including local governments), while some countries consider R&D also as a part of public procurement. This perspective sees any government-funded development or utilization as a realm of public procurement. Of course, the scope and scale may vary according to the country’s administrative system.

To explain South Korea's public procurement in relation to its administrative system, the first element to be considered is the contract administration function for purchasing goods, services, and construction used by government agencies including central government, public institutions, local governments, and related local public agencies for administrative purposes. The second element is the policy support function reflecting various government policies through the B2G (Business-to-Government) market, where the government, not general consumers, is the buyer and companies are vendors.

These two functions are closely interconnected in their cooperation. While the former mainly deals with the market trading rules, the latter handles issues related to qualifications and preferential treatments.

It is difficult to set a clear theoretical definition of public procurement as related policies vary between countries. In South Korea, however, this dichotomous distinction is possible because different government administrative agencies oversee the two different functions. While contract administration exists in virtually all government agencies, albeit in departmental form, if a country has a separate contract administrative agency (i.e. central procurement agency) like South Korea, many of those contract administration related activities necessary for the country will be carried out by this central agency. The prime goal of the central procurement agency is to ensure reasonable prices for quality procurement and transparency in the contract processes.

Additionally, given that public procurement is a market directly controlled and operated by the government, the market is sometimes used to achieve the government's political agendas. For example, it can be used to secure certain bids for small and medium-sized enterprises (SMEs) or to give them competitive advantages in the bidding process. For this purpose, it is common that government agencies in charge of supporting SMEs oversee the relevant laws and systems.

The following classifications are a simplified conceptual description of South Korea's public procurement system, which will assist a better understanding of South Korean cases and related systems.

[Table 1-1] Classification of South Korea's Public Procurement System

Perspective	Description	Related laws	Related agencies
Finance and Contract	A prime objective is to purchase quality goods, services, and construction used by the government (including government agencies) at reasonable prices in a timely manner.	Act on Contracts to which the State is a Party ("State Contract Act" in short) Act on Procurement	Ministry of Economy & Finance Public Procurement Service
Policy Support	A prime objective is to support the development of certain industries (e.g. SMEs or companies run by female CEOs or the disabled) and the implementation of key national policies by using the public procurement market's purchasing power	Act on Facilitation of Purchase of SME- Manufactured Products and Support for Development of Their Markets Act on Green Purchase	Ministry of SMEs and Startups Ministry of Environment

The purpose of this study is to explain South Korea's case in terms of utilizing public procurement for national growth. As such, key features of public procurement will be examined from the perspective of policy support.

2. Key Features of Public Procurement in South Korea from the Perspective of Policy Support

The basic principle of public procurement is competitive contracting, in which the quality standards and price evaluation of the purchase items serve as the key criteria. To support government policies, certain companies or products are preferred over others in government purchasing. An approach called the "Priority Purchase System" is applied to ensure a policy link to public procurement and the "single tender contract" method is often used to effectively implement this priority purchase system.

Priority purchasing can be explained as a concept of giving a priority to a product produced by a specific company or to a commodity recognized by the government for preferential

consideration among similar products. In other words, although competition should be the principle, single tender contracts are permitted, and concentrated purchase of certain products are institutionalized to realize this policy objective. This system is also used as a means to promote policy implementation by giving additional points to some bidders in the bidder selection process, providing incentives for buyer institutions who purchase products from the preferred group or giving them extra scores in their institutional evaluations. Priority purchasing is a compelling policy also for companies participating in this public market as it will create immediate sales increase and thus enhance their business performance.

The specific practices may be divergent not only within South Korea but also in other countries when the policy is implemented in the field. One thing in common, though, is that they all make efforts to link policy support measures to public procurement by taking advantage of the key features of this government-operated market.

2.1 Types and Key Features of the Priority Purchase System in South Korea

The priority purchase system does not pursue the common values of general procurement. In the context of public procurement, this system instead offers discriminatory treatment to certain suppliers or products qualified for receiving policy support.

This priority purchasing method provides preferential treatment for certain companies and favors the purchase of specific products. Its implementation begins with determining the scope of target vendors or target products to be purchased. The priority purchase system can be categorized into various types according to the features of vendors and the ways the target products are selected.

The preferential treatment of certain vendors according to their company features, not the products, supports the selected vendor company by purchasing its products. The following are the types of policy support for priority purchase practiced in South Korea.

2.1.1 Policy Support by Company Feature

A classification by company feature refers to a categorization of policy support types by company size (e.g. large company, or SME), CEO's characteristics, and business objectives.

A preferred treatment of SMEs and especially small companies, when they compete against their bigger rivals, falls into the category of policy support by company size. Additionally, the purchase of products produced by companies run by female CEOs is encouraged to promote women's social engagement in South Korea. This is a type of policy support categorized by top management's characteristics.

These priority purchasing programs based on these company features is closely related to the government's social, economic and welfare policies as well as policies for women. The priority purchase system reflects the government's intention to actively utilize its procurement market in achieving the maximum impact of these policies.

2.1.2 Policy Support by Product Feature

The policy support based on the product features is designed to preferentially treat products containing certain technologies or those recognized by the government, regardless of the company types. In South Korea, such products are often called "technology development products" that generally refer to products certified or designated by government agencies. In addition, products containing eco-friendly elements are included within the scope of the priority purchasing policy, which must be approved by government agencies. Such purchase of "technology development products" is a typical method of supporting technology innovation using public procurement in South Korea.

[Table 1-2] Key Priority Purchase Systems in South Korea

Classification by feature	Type of priority purchase system	Relevant laws
Company feature	Mandatory purchase of products from SMEs	Act on Facilitation of Purchase of SME-Manufactured Products and Support for Development of Their Markets
	Mandatory purchase of products from companies run by female CEOs	Act on Promoting Companies Run by Female CEOs
	Mandatory purchase of products from companies hiring the disabled	Act on Supporting Companies Hiring the Disabled
	Mandatory purchase of products from social enterprises	Act on Promoting Social Enterprises
Product feature	Preferred purchase of technology development products	Act on Facilitation of Purchase of SME-Manufactured Products and Support for Development of Their Markets
	Preferred purchase of green products	Act on Promoting Green Products

2.2 Priority Purchasing System and Procurement Contract

To enhance the policy efficacy of priority purchasing, mandatory quotas can be imposed on buyers, in this case, government agencies. Some products can be subject to single tender contracts so that they can bypass the competitive bidding process and rapidly finalize the contracts.

As a means to provide stronger incentives for buyers from the public sector to actively participate in the mandatory purchase program and increase the ratio of mandatory purchase in their total purchase, public institutions' mandatory purchasing records are positively reflected in their performance evaluation. This is another example of promoting priority purchasing in South Korea.

According to the country's public procurement regulations, buyer institutions are required to buy more than 50% of their total product purchase from SMEs, of which technology development products need to account for at least 15%.

Though the enforcement of mandatory purchase has some binding power as it is clearly

stipulated in the law, there are no separate provisions for punishment when they are not observed. However, the practice of reflecting this element into the performance evaluation of buyer institutions and requiring them to submit their annual mandatory purchasing records and plans to the government ministry supervising the mandatory purchase system serves as an effective means to promote this system.

South Korea's public procurement system and methods have benchmarked the U.S. system to a considerable extent. As such, the American public procurement system also offers preferential treatment to companies run by female CEOs, socially disadvantaged companies, and SMEs and it also sets mandatory purchase ratios. Although the methods may vary in other developed countries, priority purchase is often considered as a viable option from the perspective of the operation of the public procurement market. However, the enforcement of priority purchase system including mandatory purchase may vary depending on respective countries' industrial structure, the distribution of their companies, and their public procurement principles. In some cases, priority purchase can be used for the purpose of protecting their own industries.

With joining the World Trade Organization (WTO), South Korea is required to open its public procurement market to the member countries of the Government Procurement Agreement (GPA), when the purchase is greater than a certain level. This implies that a principle of competitive bidding is generally applied to ensure foreign companies' equal participation in the bidding process. However, single tender contracts for technology development products can be exceptionally signed with SMEs when they are qualified for the SME support policy.

As mentioned above, to execute priority purchasing, the scope of purchase items must be specified. For example, to identify companies that fall into the category of priority purchasing, government agencies issue certificates for qualified companies based on their key features. In the case of items for priority purchasing, a government-run certification system can designate applicable products in the law.

As such, when applying priority purchasing methods to execute government policies, other

systems that can help identify the purchase items must be accompanied. In some cases, the government can operate them directly while it can sometimes entrust these functions to private institutions.

In South Korea, these policies and systems have been maintained for a long time, and, accordingly, the industries related to the certification have developed side by side. In fact, prospering e-marketplaces in the public sphere driven by the advancement of e-commerce technology also contribute to the expansion of the priority purchasing system.

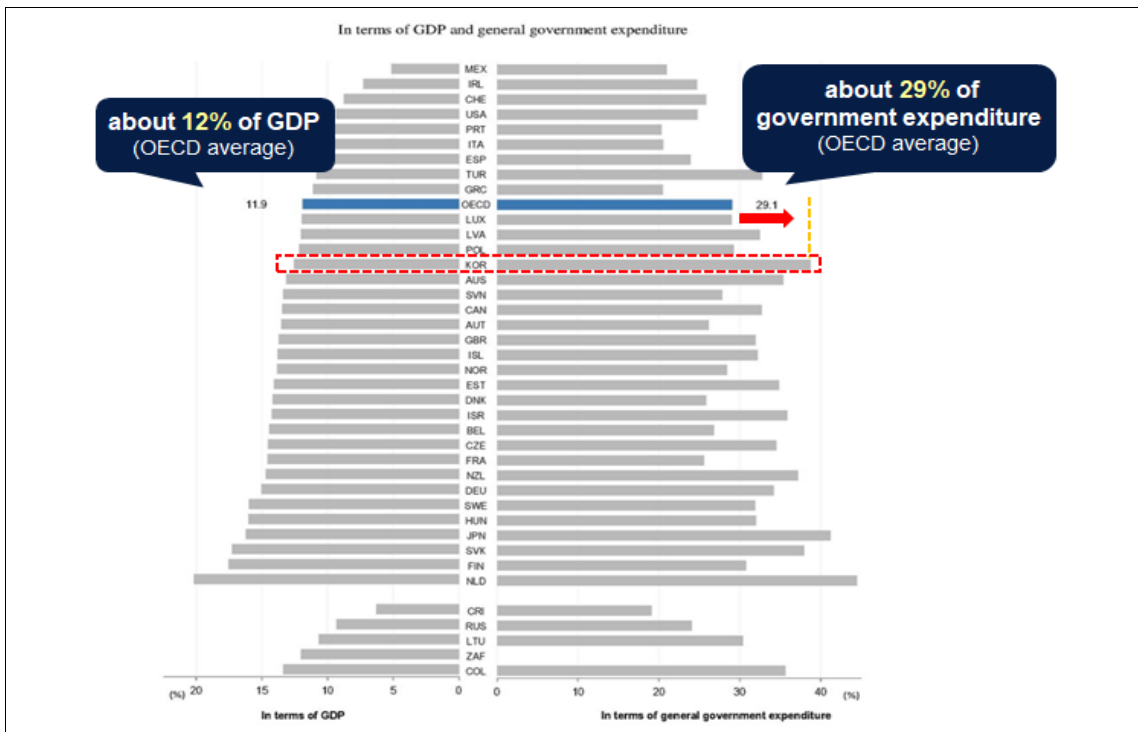
If the size of its public procurement market is relatively small and its technology development capacity is not so advanced, a country can implement the priority purchasing system at a manageable level as the scope of priority purchase would be also limited. However, as the size of the public procurement market grows, the effective implementation of the priority purchasing system becomes possible only when the administrative infrastructure is in place. Uniquely in South Korea's public procurement system, purchasing needs mostly come from public corporations and local governments, rather than government ministries. In addition, as the government runs a system for evaluating and managing these public corporations and local governments, it can easily incentivize them to comply with the priority purchasing program by reflecting their priority purchasing compliance into their performance evaluation through rewards or reprimand. This can serve as effective motivational factors for purchasing. However, it may create a bias towards certain products or an overemphasis of corporate performance, so it is necessary to consider measures to preemptively address these problems.

3. Size and Status of Public Procurement in South Korea

Since the size of public procurement is often determined by the government budget, it varies by country. However, it generally accounts for about 30 percent of the government budget and 8-10 percent of national GDP.

According to the OECD report, the average size of public procurement among the OECD member economies is approximately 29 percent of government expenditure and about 12 percent of GDP. In the case of South Korea, the size of its public procurement is estimated at 8 percent of its GDP, or about KRW 150 trillion, which is about 30 percent of South Korea's annual budget of 500 trillion won.

[Figure 1-1] Size of Public Procurement in OECD Economies



Source: SMEs in Public Procurement, OECD, 2018

Especially in crisis situations like the current COVID-19 pandemic, governments tend to increase their spending significantly and the size of public procurement also grows in proportion to the increases in government spending. Since economic growth comes along with government budget expansion, policy priorities should be placed on institutions and policies related to public procurement for effective control of government spending in the process of economic growth.

The size of public procurement in South Korea is estimated at around KRW 134 trillion as of 2019, which implies an increase of about 10% from the previous level of KRW 120 trillion. The country's public procurement has increased by more than 30% over the past eight years.

In 2019, South Korea's public procurement market accounted for about 7.3% of its real GDP, which stood at KRW 1,848 trillion. Considering its government budget has now increased to a record high level of almost KRW 500 trillion, it is clearly shown that the size of government procurement has steadily claimed 25 percent to 30 percent share of the total government budget.

Currently, South Korea is planning to further increase its budget to about KRW 555 trillion won for 2021 to boost the stagnated economy inflicted by the pandemic. This increase is likely to be translated into a solid expansion of its public procurement to KRW 150 trillion. In fact, this implies the country's public procurement market has grown by almost 50 percent over the past ten years.

[Table 1-3] Trend of Public Procurement Market Size in South Korea

(unit: trillion KRW, %)

Classification		2012	2013	2014	2015	2016	2017	2018	2019
Public procurement performance	Total procurement	106.3	113	111.5	119.2	116.9	123.4	123.4	134.9
	Total procurement from SMEs	71.9	78.8	78.3	85.4	86.1	92.2	93.9	104.9
	Procurement of SME products	23	27.8	27.9	30.5	31	33	33.1	37.6
Procurement of technology development products		2.1	2.5	2.6	3.1	3.7	4.5	4.5	5.3
Ratio of technology development products procurement in procurement SME products (%)		9.1	9.0	9.3	10.2	11.9	13.6	13.7	14.5

Source: Public e-Procurement Information

Since policies such as priority purchasing are implemented by presenting target rates, purchases from SMEs are on the rise and the share of technology development products is also growing in tandem. Compared to 2012, the share of technology development products in public procurement has more than doubled.

Over the years, South Korea has implemented its priority purchasing policy by mandating public sector buyers to comply with the 10% purchase quota of SME products in their total purchase. Now, the government has revised relevant laws to increase this ratio to 15% from the year 2020. As result, SMEs' sales are expected to rise continuously.

Since the public purchasing system is aimed at supporting an expanded purchase of certain product items (e.g. products of SMEs), the government has asked public institutions to submit their purchase records and plans to prove their purchase of SMEs' products. The number of public institutions committed to this priority purchasing program has steadily increased, helping SMEs expand their markets.

As of 2018, there are total 837 public institutions, 46 under the central government, 260

under the local governments including district offices of education and municipal parliaments, 339 public agencies, 151 public enterprises located in local provinces, 6 special corporations (e.g. Farmers' Cooperatives, Fishermen's Cooperatives, and Chamber of Commerce), and 35 regional medical centers. These institutions are required to report their current year purchase records and next year's purchase plans as an evidence of their commitment to the mandatory purchasing quota.

Currently, according to the Act on Facilitation of Purchase of Small and Medium Enterprise-manufactured Products and Support for Development of their Markets, these public institutions are required to report their mandatory purchasing performance to the Minister of SMEs and Startups, which is also reflected in the evaluation of their overall performance.

[Table 1-4] No. of Public Institutions Mandated to Submit Public Procurement Records and Plans by Year

Classification	'07	'08	'09	'10	'11	'12	'13	'14	'15	'16	'17	'18
No. of institutions	156	163	210	204	282	495	516	745	765	775	788	837

Source: Public e-Procurement Information

Of course, the increasing number of public institutions participating in the priority purchasing program reflects their close linkage to the changes in the government's organizational structure. In fact, the expanding scope of public sector activities along with the increased government budget has resulted in the increase of newly established public institutions.



CHAPTER 2

Support for SMEs and Public Procurement



Chapter 2. Support for SMEs and Public Procurement

1. SME Support System

Uniquely in South Korea, public procurement is used to support SMEs. Regardless of their types, priority purchasing systems in South Korea's public procurement are all targeting SMEs. So, it would not be an exaggeration to say that public procurement-related systems in South Korea are mostly designed to support SMEs. Besides priority purchasing system, South Korea's public procurement has other types of support systems for SMEs, which will be reviewed in this section in detail.

1.1 Competition between SMEs

Of various methods for supporting SMEs through public procurement market, priority purchasing program is frequently used as a universal and convenient procedure. There are, however, other methods of support that can be implemented from the perspective of the contract system.

In the process of rapid economic growth, South Korea has formed an industrial structure centered around large corporations, so the growth of SMEs has been rather unbalanced. In fact, widely known large corporations in South Korea that have now become global companies such as Samsung, Hyundai, and LG also started their business as SMEs. The government's industrial development policies during the early stage of the country's development made intensive investments in these companies possible, which helped them grow rapidly in a short period of time. However, there have been strong criticisms

that the unbalanced industrial structure tilted towards these large corporation would hinder national competitiveness.

To alleviate the structural imbalance tilted towards large corporations, laws have been enacted to restrict the participation of large corporations in the public procurement market, allowing only SMEs to compete in the market. The purpose of these laws is to lay the foundation for protecting SMEs and leading their growth in the public procurement market. In South Korea, this system is referred to as the "Competition System among SMEs", which has been implemented since 2007.

From a contract perspective, the competition between SMEs can be considered as a type of limited competition among various competitive bidding mechanisms and is legally based on the "Act on Facilitation of Purchase of Small and Medium Enterprise-manufactured Products and Support for Development of their Markets" (hereinafter referred to as the "SME Market Development Support Act") administered by the Ministry of SMEs and Startups. This law stipulates as follows:

[Act on Facilitation of Purchase of Small and Medium Enterprise-Manufactured Products and Support for Development of Their Markets ("SME Market Development Support Act")]

Article 6 (Designation of Competing Products among SMEs)

① The Minister of SMEs and Startups may designate any products, directly manufactured and supplied by SMEs, which are deemed necessary to expand SMEs' markets, as competing products among SMEs (hereinafter referred to as "competing products").

Article 7 (Contracting Method of Competing Products)

① The heads of public institutions shall conclude procurement contracts of competing products through a limited competitive tendering procedure open only to SMEs or a designated competitive tendering procedure open only to invited SMEs (hereinafter referred to as "competitive tendering among SMEs"), except in extenuating circumstances prescribed by the Presidential Decree.

If the laws that regulate the governments' contract practices fall into the category of a general law, the "SME Market Development Support Act" can be considered as a special law for government procurement contracts. Although this Act stipulates various standards for operating SME supporting systems, it prohibits purchasing and contracting outside the scope of the statute.

Relevant clauses of the Act require that not all but certain products manufactured by SMEs be designated as the products in scope and contracts be finalized to purchase these products through limited or designated competition.

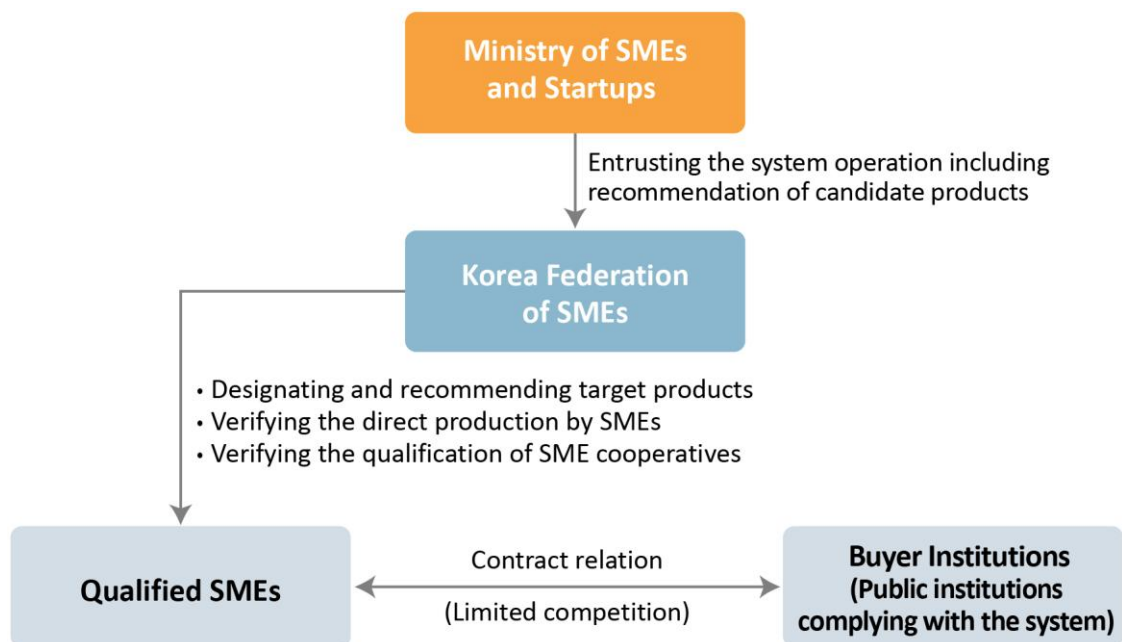
In other words, contracts of products in scope should follow the procedures stipulated in the contract law such as limited or specified competition and the products in scope should meet the following two conditions.

- Condition 1: Products directly produced and supplied by SMEs.
- Condition 2: Products whose markets need to be developed and expanded

Based on the above requirements, the current operating system of the SME Market Development Support Act consists of two main tasks of i) designating the products in scope and ii) verifying SMEs' direct production.

The figure below shows the current operating mechanism, in which the Ministry of SMEs and Startups oversees the operation and execution of the SME competition system while the Ministry entrusts the Korea Federation of SMEs with the tasks of recommending and designating candidate products and verifying SMEs' direct production.

[Figure 2-1] Operating Mechanism of SME Competition System



Source: Research Team

Among the buyer institutions, public institutions complying with the SME Market Development Support Act should purchase designated competitive products through limited competition among SMEs and these SMEs should be certified of their direct production.

1.2 Other SME Support Systems

SMEs in South Korea's public procurement system are supported through various measures, of which the above-mentioned priority purchasing system and SME competition system are the most representative ones. The latter limits the participation in the bidding only to SMEs. These two measures are linked to the country's overarching public procurement policy. In fact, there are various related systems for supporting SMEs within a large framework of the nation's public procurement system. However, it is not in the scope of this study to explain all these systems in detail. Instead, a brief description of these related systems is presented in [Table 2-1].

[Table 2-1] Systems for Supporting SMEs in South Korea's Public Procurement Framework

Classification		Description
Competition between SMEs	Designating SME competitive products	<ul style="list-style-type: none"> SME competitive products designated by the Minister of SMEs and Startups are purchased through a competitive bidding among SMEs (limited or designated tender) or a single tender contract
	Direct (separate) purchasing of construction materials	<ul style="list-style-type: none"> When placing a construction order, public institutions place separate orders of construction materials that belong to the category of SME competitive products. They purchase these materials directly from the SME vendors and supply the purchased materials to the construction vendor.
	Verifying qualified SME cooperatives	<ul style="list-style-type: none"> To promote collective sales activities of small companies incapable of participating in the competitive bidding for SME competitive products, qualified SME cooperatives are invited to participate in the bidding.
	Verifying direct production by SMEs	<ul style="list-style-type: none"> On-site verification of SMEs' production facilities and manufacturing processes is conducted to prevent selected SMEs from delivering their orders using imported products or products manufactured by large corporates or third party contractors.
	Screening contract execution capacity	<ul style="list-style-type: none"> When signing a contract to purchase SME competitive products through a competitive bidding procedure, a lower limit for bidding (85% of the average standard market price) is applied instead of the lowest bid selection. - Selection criteria: bidder's order fulfillment capacity, bidding price, credibility, and clearance from disqualification issues
Technology Development Products Purchase	Priority purchasing of technology development products	<ul style="list-style-type: none"> Public institutions are required to preferentially purchase SMEs' technology development products, helping SMEs develop their markets. - Scope: EPC (performance certified), NEP, NET, GS, best certified products for procurement

Classification		Description
	Purchasing certified and insured technology development products	<ul style="list-style-type: none"> - Purchasing support is provided for public institutions when they purchase products certified in the government's performance test - Buyers are exempted from liabilities caused by purchased products when the products are performance-insured products.
Others	Setting purchase targets for SMEs	<ul style="list-style-type: none"> • Mandatory public purchasing quota is applied for SME products and technology development products. - SME products: more than 50% of the total purchase - Technology development products: more than 10% of SME product purchase
	Priority purchasing of small companies' products	<ul style="list-style-type: none"> • Limited competition only between small companies or businesses is introduced to protect their interest in the competitive bidding by designating some of SME competitive products to be subject to this type of limited competition.
	Operating "Public Purchasing Information Network"	<ul style="list-style-type: none"> • Information network between buyers (public institutions) and vendors of public purchase is established to promote their information exchanges.
	Offering "Public Purchasing Loan"	<ul style="list-style-type: none"> • SMEs are financially supported as they are allowed to borrow loans from banks to fund their production and operation activities using their contracts with public institutions as evidence.
	Operating public purchasing officers	<ul style="list-style-type: none"> • Officers from the Ministry of SMEs and Startups or accounting experts from public institutions are designed as public purchasing officers to facilitate the purchase of SME products and support public institutions' purchasing activities.

Source: Public e-Procurement Information, Summarized by the Korea Institute of Procurement

2. Venture and Startup Support System

The above-mentioned priority purchasing method can also be applied to support ventures and startups in South Korea's public procurement system. Besides this priority purchasing system, other indirect supporting channels can also be used to promote and recommend products from ventures and startups.

The government ministry in charge of providing policy support for these ventures and startups is the Ministry of SMEs and Startups, which provides support by setting a target purchase quota for products from startup companies in addition to the existing priority purchase of technology development products.

The South Korean government revised the Enforcement Decree of the "SME Establishment Support Act" in 2020 to support ventures and startups and set the target purchase quota of 8% in public procurement for products from startups.

[SME Establishment Support Act]

Article 5-2 (Public Institutions' Priority Purchasing) ① The head of a public institution shall promote its purchase of goods, services, and constructions produced or supplied by startups (hereinafter referred to as "startup products").

② The purchase plan prepared by the head of a public institution pursuant to Article 5-1 of the "Act on Facilitation of Purchase of Small and Medium Enterprise-Manufactured Products and Support for Development of Their Markets" should include plans for purchasing startup products.

③ The purchase plan prepared pursuant to Article 5-2 should include a target purchase quota for startup products that is equal to or higher than as prescribed by the Presidential Decree. The head of a public institution shall endeavor to achieve its planned purchase of startup products by purchasing more than the plan.

- Omitted Below -

[Enforcement Decree of the SME Establishment Support Act]

Article 5-8 (Target Purchase Quota for Startup Products) ① The head of a public institution shall include a target purchase quota of 8 percent or more when preparing a purchase plan for startup products pursuant to Article 5-2 ② of the Act. However, if it is difficult to set the target purchase quota at more than 8 percent, the target may be set differently in consultation with the Minister of SMEs and Startups.

② When calculating the ratio of the target purchase quota pursuant to the above clause ①, the purchase of a product that has undergone simple processing such as packaging or other additional work to sustain the product quality shall not be considered as a purchase of a startup product.

As the relevant regulations show, what is common in the support systems of the country's public procurement is that they all require setting the target purchase quota and stipulating it in the support policies and related laws. This approach is intended to promote the impact of the support policy by presenting such target openly to the public

However, as in the above regulations, there is no extra means to regulate public institutions if they fail to achieve their target purchase quota. Moreover, public institutions can easily adjust such target when the products they purchase are not compatible with their policy purpose. As a result, the effectiveness of venture and startup support system cannot be guaranteed. Failure to comply with the purchase target stipulated in laws, however, may be criticized as a misconduct in the National Assembly audit. When necessary, public institutions' compliance with the system can be reflected in their performance evaluation as a means to improve the efficacy of the system.

On the other hand, in addition to achieving the purchase target as prescribed by law, there are cases where the central procurement agency's system is effectively used to support ventures and startups.

The Public Procurement Service, South Korea's central procurement agency, has been supporting the initial sales of startup products through a purchasing platform called "VENTURENARA" over the recent years and is now extensively involved in fostering

corporate participation in this platform and its connection to public institutions in a bid to support the implementation of the national agenda.

When selecting bidders, the Public Procurement Service, as a lead procurement agency who oversees the overall bidding system, frequently provides incentives to benefit startups by giving them extra points. However, when reflecting the element of policy support in selection process for successful bidders, it is necessary to carefully examine how this element is related to other evaluation criteria. If there are other incentivizing factors, for example, the bidder's contribution to job creation or export, this incentive favoring startups can easily be substituted, thus reducing the impact of the startup support policy. The more alternatives companies have in receiving additional points from, the lower the influence of the relevant indicators on the possibility of a successful bid.

In South Korea's bidding system, applying additional points may be difficult to act as a decisive factor in successful bidding as the proportion assigned to quality and price is still higher than that of other additional considerations.

This is because of South Korea's unique industrial structure and corporate distribution. When there are a limited number of companies participating in the bidding and their quality and price differences are not big enough, the impact of the additional points can be considerable and thus can be used to effectively support the startups.



CHAPTER 3

Technology Innovation and Public Procurement



Chapter 3. Technology Innovation and Public Procurement

1. Priority Purchase System for Technology Development Products

South Korea first introduced technology innovation into its public procurement system as an important factor to drive the quality improvement of SME products. For this purpose, the certification system was also introduced. Later, it has been institutionalized to better support the priority purchase system and purchase target-setting. These institutional changes enabled an early model of innovative procurement and encouraged vendor companies to accelerate their technology development by taking advantage of the government's purchasing power in public procurement.

This study also examines the institutional background and history of South Korea's technology development product procurement and the key features of the relevant certification systems.

1.1 Background of the Introduction of the Priority Purchase System for Technology Development Products

As afore-mentioned, the priority purchasing system plays an important role in using the government-controlled market like the public procurement market for the purpose of promoting the implementation of government policies and maximizing their impact. In 1994, to support technology improvement efforts of SMEs, not the market dominant conglomerates, the South Korean government enacted the "SME Market Development Support Act" and laid the legal foundation for implementing the priority purchasing

system for technology development products. Based on this Act, the South Korean government began to provide direct support for the procurement of technology development products by separately classifying them from general products of SMEs.

In the early stages of this system, products subject to priority purchase were limited to technology development products and quality certified products produced by SMEs. Back then, technology development products referred to products of excellent "quality." This notion is closely related to the unique process of South Korea's economic growth, as the government policies at that time were specifically aimed at manufacturing high quality products that could boost local companies' exports in the era of globalization.

In the case of quality-certified products, the priority purchase policy was first applied to standardized products in 1993, when the Industrial Standardization Act, enacted in 1961, was completely revised for systematically regulating industrial standards.

The essence of this policy has been maintained till today. An initial form of priority purchasing required the state, local governments, government-invested institutions, and public organizations to purchase marked- products over non-marked products in accordance with relevant regulations. When marked products were not available in the market, the buyers were required to first purchase products with marks of quality certification.

In other words, when the priority purchase was introduced, the industrial policy climate aimed to increase productivity through standardization and secure quality and competitiveness in an export-oriented economy.

In 2009, the "Act on the Promotion of SMEs and the Purchase of Their Products" was amended into the "SME Promotion Act," while sections related to the promotion of procurement from SMEs and development of SME markets were separately enacted into the "Act on Facilitation of Purchase of Small and Medium Enterprise-Manufactured Products and Support for Development of their Markets." This Act included the newly written clauses on the priority purchase of SME products and expanded the application of certification-related regulations.

1.2 Priority Purchase of Technology Development Products and Product Certification and Designation

Oftentimes, South Korea's early policies on technology innovation were implemented in conjunction with industrial policies. In this process, the certification systems also evolved accordingly. Certification is usually divided into statutory mandatory certification and arbitrary certification. For example, in case where the certification of safety and hygiene, which is a prerequisite for a product to be introduced in the market, is considered as statutory mandatory certification, either domestic or international certification systems (similar to standards) can be utilized. If a particular country's economic environment does not allow for its own certification system, overseas certifications are applied. In such cases, certifications of the U.S. or Europe are often preferred over those of other countries. If the local companies of the country lacking its own certification system are certified in the U.S. or European system, they do not need to obtain additional certification when they enter overseas markets. So, the borrowing the American or European certification system can be an efficient option because the arbitrary certification of a particular country is rarely recognized unless a separate provision exists in another country.

In South Korea, the “New Excellence Product (NEP)” and the “New Excellence Technology (NET)” certifications are frequently used arbitrary certifications for technology innovation. The Industrial Technology Innovation Promotion Act in 2006 stipulates mandatory purchases in public procurement be promoted to facilitate and disseminate the certification system. These certified products could also be purchased under single tender contracts without going through the competitive bidding process.

Launched by the Ministry of Trade, Industry, and Energy, these certifications were intended to promote innovative industrial technologies. In this context, these certifications now serve two functions of preferentially treating new technologies and products and having companies to obtain these certifications, so that they can be preferentially treated in the public procurement market.

Currently, there are 19 types of certifications that are favored in the public procurement market. One of the most unique features of the South Korea's certification system is that

the county is now operating multiple certifications by area depending on the government agencies' roles in the respective areas of construction, transportation, environment, and healthcare.

While the ministries in charge of industry mainly use certification to induce technological development of industries concerned, other ministries in charge of general administration can also designate their own certifications.

One of the prime examples of widely adopted certification systems is the "System for Designating Excellent Procurement Products" run by the Public Procurement Service (PPS), South Korea's central procurement agency. An effective operation of this certification is possible because PPS conducts quality control of products delivered in the public procurement market.

The priority purchase products designated by PPS are those from SMEs who have obtained many of the above-mentioned certifications. The priority purchase system based on certification intends to support the market development of these products through priority purchase and single tender contracts. This certification-based priority purchase system was first introduced in 1996. It was reflected in the law in 2000, when the Enforcement Decree of the "Act on Procurement Business" introduced a clause on the designation of excellent procurement products. In 2009, the clause was expanded into the "Government Procurement Act."

The excellent procurement products are designated among SME products of high quality and with excellent technologies through a separate screening process. Though this process is called a designation, not certification, of excellent procurement products, the designation is granted by the PPS head. As such, relevant laws stipulate that these excellent procurement products along with other certified products be subject to priority purchasing and single tender contract.

The designation of an excellent procurement product requires the product be certified by other government ministries as NEP or NET and acquire technical rights such as patents or utility models to prove its technical excellence. Additional quality certification may be

needed for some products to meet certain quality criteria.

In South Korea, a category of designated products with the highest performance in the public procurement market is called the “Excellent Procurement Product” category because PPS is currently operating a separate purchase system for this category. If designated as an excellent procurement product, the product is registered in a separate procurement system called “General Shopping Mall” operated by PPS. PPS also provides various promotional and sales support benefits. The “General Shopping Mall” is a model that applies private e-commerce to the public procurement. PPS enters into a contract in advance that does not require delivery in the form of a provisional contract and registers the product in the “General Shopping Mall,” and it also supports the purchasing institutions to make payments with a simple click without a separate contract process. In particular, the purchase of excellent procurement products is considered as fulfilling government-mandated priority purchase, which incentivizes many public institutions to buy these items.

In terms of contract methods, it is relatively easy to make the purchase of these items using the “General Shopping Mall,” which helps enhance the administrative convenience of buyer institutions.

Unlike the certification systems of other ministries which require the review and evaluation of the technological details, the PPS designation system of Excellent Procurement Products ensures the ease of evaluation and operation by setting the certification by other ministries as a prerequisite for being selected as excellent products among those pre-certified applicants.

Therefore, in environments where separate certification systems are difficult to operate, selecting excellent products by utilizing existing certification systems that are being adopted overseas as global standards can be a feasible short-term solution.

1.3 Linkage between R&D and Public Procurement

In the previous section which described the product-based certification, the term “technology development product” was used to refer to products related to certification. However, technology development products are not merely certified or designated products, but they include all products that are recognized to be qualified for the priority purchase system. Among these products, some are linked to the government R&D programs, which will be briefly explained in this section.

The table below describes a list of products collectively referred to as technology development products in the South Korean public procurement market. Currently, there are 19 types of technology development products certified or designated for priority purchasing. Considering that the NET certification of the 5th category has 11 different kinds run by 11 different ministries, the total number now increases to 30.

The technology development products of the 7th and 19th categories are those related to innovation procurement which will be discussed in detail in the following section. Technology development products of the 8th and 9th categories are those related to national R&D programs.

[Table 3-1] Technology Development Products Certified or Designated for Priority Purchasing System

Category	Product name (Responsible ministry)	Legal basis	Description
1	Performance Certification (Ministry of SMEs and Startups)	Article 15 of the SME Market Development Support Act	The performance of SME products is advanced enough to be certified as priority purchasing products.
2	Excellent Procurement Products (PPS)	Article 18 of the Act on Procurement Business	To improve the quality of procured products, technologically excellent SME-manufactured products are selected and designated as “Excellent Procurement Products.”
3	GS Test Certification (Ministry of Science, and ICT)	Article 13 of the Software Industry Promotion Act	The government guarantees the software quality to support market development of software companies
4	New Excellent Product (NEP) (Ministry of Trade,	Article 16 of the Act on Industrial	Products that are three years old or less after the market release with

Category	Product name (Responsible ministry)	Legal basis	Description
	Industry and Energy)	Technology Innovation	newly developed local technologies or substitute technologies embedded
5	New Excellent Technology (NET) (Ministry of Trade, Industry and Energy)	Article 15-2 of the Industrial Technology Innovation Promotion	To discover new technologies in the early stage, certify their excellence, and promote their commercialization and technology transactions
6	Joint Trademark Product for Excellent Procurement (PPS)	Article 18-2 of the Enforcement Decree of the Procurement Promotion Act	Joint trademark products jointly developed and owned by 5 or more SMEs
7	R&D Project Development Products	The Framework Act on Science and Technology	Among products developed through R&D projects, projects whose technological innovativeness has been recognized
8	Successful Products from New Product Development Project Conditioned on Purchasing (Ministry of SMEs and Startups)	Article 9 of the SME Technology Innovation Promotion Act	To support R&D conditioned on purchase by buyer institutions (large corporates, medium-ranked companies, public institutions, and foreign companies)
9	Successful Products from Jointly invested Technology Development Projects between Government and Private Sector (Ministry of SMEs and Startups)	Article 9 of the SME Technology Innovation Promotion Act	To support R&D by raising joint technology development fund (i.e. cooperation fund) between the government and investment companies
10	Selected Products Developed by Public Institutions (Ministry of Economy and Finance)	Article 8 of the Regulations on the Contract Activities of the Public Companies and Semi-Government Institutions	Products jointly developed by public institutions and manufacturing companies for the purpose of promoting localized production
11	Projects Successful in Sharing Outcomes (Ministry of SMEs and Startups)	Article 8 of the Act on the Promotion of Mutually Beneficial Cooperation	A contract system for fair distribution of the outcomes of the joint efforts between companies through pre-defined methods

Category	Product name (Responsible ministry)	Legal basis	Description
12	Successful Products from SME Convergence and Combined Technology Development Project (Ministry of SMEs and Startups)	Article 9 of the SME Technology Innovation Promotion Act	R&D projects supporting joint technology development between SMEs or between research institutes and SMEs
13	Green-Certified Products (Ministry of Trade, Industry and Energy)	Article 32 of the Framework Act on Green Growth	Products adopting energy saving technologies that minimize greenhouse gas emissions and pollutants
14	Industrial Convergence Products (Ministry of Trade, Industry and Energy)	Article 3 & 24 of the Industrial Convergence Promotion Act	Products selected as industrial convergence items resulting from industrial convergence between SMEs and medium-ranked companies
15	Certified Products Suitable for New Industrial Convergence Products (Ministry of Trade, Industry and Energy)	Article 12 of the Industrial Convergence Promotion Act	When the products do not meet the existing certification standards or when there are no such standards, support the market development of these products by designating them as fast-track products
16	ICT Convergence Certified Products (Ministry of Science and ICT)	Article 17 of the Information and Communication Convergence Act	Verified or certified products through certification screening like on-site evaluation and testing aimed at securing the credibility of ICT convergence technologies and services
17	Excellent Industrial Design Products (Ministry of Trade, Industry and Energy)	Article 6 of the Industrial Design Promotion Act	Products whose design excellence is recognized through a comprehensive evaluation of product appearance, performance, materials, and affordability
18	Products Designated as Excellent Materials for Water Industry	Article 10 of the Act on the Promotion of Water Industry	Excellent products or technologies whose performance has been verified to contribute to the enhancement of water industry's technological competitiveness
19	Innovative Pilot Products	Article 7-3 of the Enforcement Decree of the Procurement Promotion Act	Innovative products recognized by the government in line with the innovation-oriented public procurement policy

These products are usually developed in the government R&D projects aimed at supporting SMEs, not through certification or designation, so these products can be understood as the outcomes of the demand-driven R&D projects. They are subject to single tender contracts and priority purchase in the public procurement. They are considered as key components of South Korea's pioneering demand-driven innovation procurement that are often emphasized in technology innovation policy.

2. Innovation-Oriented Public Procurement Policy

It has been a while since South Korea introduced the innovation procurement policy through the priority purchasing of technology development products.

While the priority purchasing of technology products first kicked-off for the purpose of creating superior quality products, the introduction of the priority purchasing based on new technology or product certifications in relation to industrial technology innovation policies served as the starting point of innovation procurement.

Over the past 10 years, South Korea has operated an innovation procurement program similar to PCP (Pre-Commerce Procurement), whose concept has been fully developed in Europe, under the name of the "R&D Program Conditioned on Purchase".

In fact, South Korea's innovation procurement system has evolved in two stages. In terms of time-period, the first stage corresponds to the period of the President Roh Moo-hyun government, when the R&D projects conditioned on purchasing and target priority purchasing quota were introduced. Now, the second stage is in progress under the current President Moon Jae-in government, which attempts to redefine the roles of public procurement and pursues rather aggressive innovation procurement policies through its policy of innovative growth.

2.1 Background of Innovation-Oriented Public Procurement Policy

As explained above, South Korea's innovation procurement has mainly relied on the priority purchasing of certified products. In this practice, only government-certified products are allowed in single tender contracts and the public institutions' priority purchasing records of these government-certified products are reflected in the performance evaluation of these institutions, which incentives buyer institutions to comply with the mandatory purchase of the government-certified products.

A prolonged operation of the system has created some side effects like a heavy concentration on certain products or vendor companies, which makes it difficult to achieve the initial policy goal of driving innovation as critics point out. To benefit from the public procurement, vendor companies are often concentrated on obtaining certifications. However, this does not necessarily guarantee successful bidding results, often increasing social costs.

Additionally, since demands in the public procurement are often created for materials needed by the buyer institutions when fulfilling their public responsibilities, there is a high level of concentration on certain companies or products in the product markets with high demand. Unfortunately, such concentration has limited purchasing opportunities for new innovative products.

In the early stages of government support policies such as the priority purchasing program, forming an initial market centering on a small number of products can be advantageous. If such circumstances continue for a long time, however, it creates an unbalanced market formed around specific industries or sectors. Though some policy adjustments were needed to correct such market situation in South Korea, it has remained unaddressed.

In particular, when targets such as a purchase quota are set, a blind purchase occurs in public institutions merely to achieve the corresponding goal. In this case, the initial goal of the policy can be distorted, making its operational management critical.

In the process of reviewing the accumulated problems, the Ministry of Public Administration and Security set “Innovative Public Procurement” (September 26th, 2019) as one of the six major areas of government innovation in 2019. As a result, a joint inter-ministerial scheme called the “Innovation-Oriented Public Procurement Plan” (July 19th, 2019) was announced i) to improve the existing priority purchase system for technology development products and ii) to establish a fast track that can help innovative products at pre-commercial stages enter the public procurement market.

This plan is designed to address the shortcomings of the existing priority purchase system and the fragmented certification systems, introduce a new method of innovation procurement called fast track, and introduce related incentives and liability exemption for purchasing officers of buyer institutions.

The fast track procurement of innovative products can take two approaches. The first approach is granting single tender contracts to national R&D outcomes and the second is conducting test purchasing of prototypes.

One of the most important and urgent institutional improvements is the establishment of a public procurement control tower as a pan-ministerial entity. Due to the nature of public procurement, consultations and coordination between ministries occur frequently as various regulations are scattered throughout the public procurement framework. In this context, a control tower in public procurement needs to be newly established in the form of a government committee who can play the role of overall planning and coordination to improve the effectiveness of public procurement.

2.2 Establishment of the Fast Track and Test Purchase

The fast track, one of the representative programs of South Korea’s innovation-oriented public procurement policy, reflects the country’s unique circumstances.

In the past, the operation of “Technology Development Product Purchase” was linked to the certification system, which caused a prolonged process for companies to develop new

products and introduce these products into the public procurement market.

Of course, some products with high public demand are easy to enter the market. But if a new product that has never been used by public institutions is introduced in the market, it is difficult to proceed with its procurement contracts without pre-defined test standards, purchase specifications, and standardization for certification.

This is because the buyers of public procurement are public institutions who spend the government budget to purchase the products. If quality issues arise with the purchased products in the future or the purchase price turns out to be higher than that of similar grade products, these public institutions may end up in being scrutinized in the audit. Consequently, procurement officers of public institutions tend to prefer products that they have experienced before, making very conservative purchases.

In order for a new product to satisfy buyers, user test is an important procedure before the product is verified in the market. South Korea's R&D support, however, has focused on the development process, while purchase support is possible only after a complete verification process. This dichotomous support system requires a plan to fill this gap. A test-purchase program, often called as "Innovative Product Fast Track," has been under discussion as it allows the government to purchase early stage prototypes and test it with buyers in the public sector.

To be operated as a purchase program rather than an R&D program, the fast track program needs to ensure compatibility with the current contract laws. As such, innovative products have been selected to be applied to a purchasing procedure called "fast track."

This fast track is generally applied in two different modes. The first mode is to use it to verify the outcomes of national R&D projects. In the second approach, PSS receives technology and product proposals from vendor companies and gathers public institutions' demands, which will then be addressed by the selected private technologies or products.

Of course, not all selected products are initially purchased by the government. In the case where products are matched with the public institutions who conduct field tests, they are

supported within the specified budget. In the fast track, PSS becomes the initial buyer of selected products, which will then be transferred to the public institutions performing the tests in the future.

Canada is the first country who introduced and operated this fast track method. While Canada's current system has been partially modified, the BCIP (Build in Canada Innovation Program) was benchmarked by South Korea before it was applied in a partially modified form.

To further promote the purchase of innovative products, the South Korean government has set a goal of supplying one percent of its purchase with these innovative products, separately from the already existing priority purchase of technology development products.

Some countries in Europe currently set the purchase target of innovative products while the EU Commission actively reviews the innovation procurement performance and seeks for cooperation in this matter.

The OECD also recognizes the importance of innovation procurement, so it runs a separate working group to share cases of innovation procurement among OECD member economies and publish related reports.



CHAPTER 4

Conclusion and Implications



Chapter 4. Conclusion and Implications

1. Summary of the Study

Policy support measures using public procurement in South Korea can be broadly categorized into certification/designation, priority purchasing, purchase target ratio, and performance evaluation. In addition, uniquely in South Korea, single tender contract and limited competition are used in the public procurement contract system.

The core elements of South Korea's public procurement system is i) the identification of vendor companies or their products eligible to receive policy support through certification, designation or verification of vendor companies and ii) the stipulation of mandatory purchasing of target products by public institutions in the relevant laws. These elements are in accordance with the policy focus aimed at promoting purchases of target products in the public procurement framework. In addition, effective implementation methods can be applied such as i) reflecting public institutions' purchase records in their performance evaluation as a means to incentivize them to comply with various support policies and ii) allowing single tender contracts to expedite the contract process.

If a policy support system is prolonged, however, there could be some side effects that may deviate from the policy objectives and rationale. Therefore, it is necessary to continuously analyze the management system and performance when introducing policy support systems.

2. Implications

A case analysis of the South Korean public procurement policies has revealed how they support SMEs and drive innovation in the country.

Different countries may adopt different ways to utilize the government's purchasing power like public procurement. Relative to other countries, South Korea's public procurement system tends to be more centralized, systematic, and goal-oriented.

Though the US and Europe have central procurement agencies in place, their public procurement system tends to guarantee individual buyers' (e.g. public institutions) autonomous purchase to a great extent. On the other hand, South Korea uses public procurement as means to support the government's specific policies, so the country sets clear goals and mandates them at the government level. It also uses incentives or reprimand to ensure an effective policy implementation.

Given the rapid economic growth of South Korea over the past 50 years, the country offers policy implementation systems that can be readily adopted by developing countries. As South Korea is now approaching to the ranks of developed countries, however, the country's systems also have some improvement needs.

Another important aspect of South Korean policies is that they can be effectively used for understanding both institutional strengths and weaknesses of the country's systems. In fact, the country has actively benchmarked best practices of developed countries and tailored them to fit its policy environment. In this context, South Korean public procurement system has important implications for concerned parties as it presents both strengths and weaknesses.

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