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Effectiveness of Public Credit Guarantee System and Its Coexistence with Market-based Finance Schemes[*]

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Korean government had used public 'credit guarantee schemes' (CGS) as a counter-cyclical measure. However, it is still controversial about the effectiveness of policy financing on the SMEs. Criticism on policy financing involves the argument that supporting enterprises hampers competition and innovation of SMEs by increasing their dependence on the government and delays the exit of marginal firms. In this paper, we investigate how to effectively build up the rationale of running public CGSs. At the same time, we propose the ways to coexist of public credit guarantee and market-based private finance system for SMEs.

First, CGS, as a counter-cyclical function, must coexist with the private financial system by compensating the market failure caused by pro-cyclical behavior of the private financial market. Second, CGS has the comparative advantages, compared to both the interest rate policy of the central bank and fiscal policy of the government. The credit guarantee is the symptomatic treatment that could revitalize the economy shortly by providing liquidity. Also, knowing that CGS is provided based on the leverage ratio defined by outstanding guarantee divided by capital fund, public 'credit guarantee' (CG) has an advantage that is free from the risk of government deficit. Third, the reason for existence of the CGS should be founded in supporting services for SMEs, available only in a public sector that is difficult to expect from private banks. In this regard, it is desirable to strengthen the publicness of credit guarantee over the support for start-ups, growing companies, the improvement of productivity, increase of exports, a long-term investment in facilities, the employment-creating businesses, and innovative enterprises.

Keywords : *Financing of SMEs, Credit Guarantee, Publicness, Financial Additionality, Economic Additionality*

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Ⅰ. Introduction

Korea has provided 'credit guarantee schemes' (CGS) to SMEs for the past 40 years since the establishment of Credit Guarantee Fund Act (enacted in 1974) and the foundation of Korea Credit Guarantee Fund (KODIT) in 1976. Despite many evidences that CGS is one of the most effective financing tools to improve financial accessibility of SMEs, there are still some controversies that CGS, compared to market-oriented schemes, is not the cost-effective method. Some are reluctant to agree running CGS using taxpayers' money as they don't have confidence in the benefit of public CGS.[1)]

In spite of criticisms on the performance of credit guarantee (CG), it is true that Korean government had increased CGs to overcome economic crisis. This implies that the credit guarantee is a counter-cyclical fix. In this paper, we investigate how to effectively build up the rationale of running public CGSs from the previous analytical and empirical evidences. Then we would like to share ideas of how to deliver the performance and the persuasive rationale of CGS to government officials including financial regulators as well as other stakeholders including commercial banks, SMEs, and taxpayers.

While playing the role of a counter-cyclical instrument, CGSs, as a policy financing instrument, faces the dilemma between publicness and profitability. Due to the characteristics of CGS, such a dilemma has been considered not easy to reach a clear conclusion. For the CGS to work as a sustainable public financing tools, however, the dilemma should be discussed to get a proper conceptual agreement among the relevant stakeholder.

This study presents the roles and tasks of the credit guarantee for enhancing publicness. Based on the analysis of literatures on publicness and the evaluation cases about management performance of public corporations and quasi-governmental organizations in Korea, we establish the concept of publicness required for CGS. Ultimately, we seek for the way of public CGS to coexist with market-based private financial system for SMEs.

Ⅱ. Rational for Running Policy Financing and the Role of CGS

2.1 SMEs and Korean economy

With a long-run perspective, publicness of the credit guarantee may be established by considering sustainable growth of Korean economy, through strengthening the competitiveness of SMEs. In this regard, Korea established its first comprehensive SME development measure, 'The Outline for the Promotion of SMEs', in 1956 and began to make full-scale support policies for SMEs.

Due to this effort, SMEs have been contributed to the economic development and acted as a primary driving force that made Korean economy grow faster. Seeing Table 1, although SMEs' contribution to national economy was lower than that of 'large enterprises' (hereafter, LEs) in 1960's, their role began to be important and their contribution to economy began to increase in the 1970~1980's. In 1990's, SMEs' contribution to national production and value-added generation began to be larger than that of LEs. In 2000's, SMEs' contribution to national job creation began to increase at a high speed. In consequence of the government's support to strengthen competitiveness of SMEs, after the global financial crisis in 2008, SMEs continued to increase their production and value-added. Hence the SMEs' contribution

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1) When the supply of credit guarantee was increased rapidly in Korea during the Asian financial crisis in 1997 and the global financial crisis in 2009, International Monetary Fund (IMF, 2005) recommended to reduce outstanding guarantee (See Noh, Song, and Hong, 2010 for details). It was pointed out by Korea Development Institute (KDI) that the role of credit guarantee is confined to revitalization of the economy but could not cope with the various economic situation. Chang (2016) also criticized SMEs with government funds presented higher survival rate, but lower total factor productivity.

to national economic growth also seemed to be a expanding trend.

SMEs serve as an important engine of Korean economic development in the perspective of the number of businesses, employment and the creation of value-added. According to the Korea Federation of SMEs (2015), SMEs in Korea cover 99.9% (about 3.416 million) of the entire businesses and 87.5% (about 13.42 million) of overall employees in 2013. It is noticeable that the number of small establishments and the number of workers employed by SMEs in 2013 increased by 12.5% and 18.4% respectively, compared to 2007. This is comparable to the LEs' jobless growth during the same time.

The share of total production and value-added of SMEs in Korean economy is about 50%. However, in general, productivity and export competitiveness of Korean SMEs are assessed as low. According to the level of productivity of small businesses announced by IMD (2014), Korea ranked 55th of the 60 surveyed countries. Also, according to OECD (2015), the percentage of value-added of SMEs that employed 59~249 workers is 20.2%. It was the top 15th among the OECD 33 countries. Exports of SMEs is also only 17.1% of total exports in 2013.

2.2 Why Policy Financing?

In the market economy, the price plays a role as an important signal that determines the distribution of resources. However, SMEs are currently in the face of limited access to finance, high interest rate, short-term finance, and credit allocation. This is because, as we see in Figure 1, there are fundamental causes in the private SME financing market such as insufficient physical collaterals and high default risk of SMEs, high financial transaction cost associated with the incomplete information, and the asymmetric information between banks and SMEs. This well explains that the interest rate does not serve as the function of effective resource allocation in the financial markets for SMEs.

In this situation, most of promising SMEs with lack of bank credit have to depend on debt financing rather than equity financing. However, financial information on SMEs is not perfectly reliable because most of them do not fulfill the systematic evaluation elements of financial criteria qualifying for loan; and collateral value of their assets is usually low. These problems lead to insufficient funds from financial institutions or makes SMEs pay higher financing costs in comparison to LEs.

Figure 1
Financial accessibility for SMEs

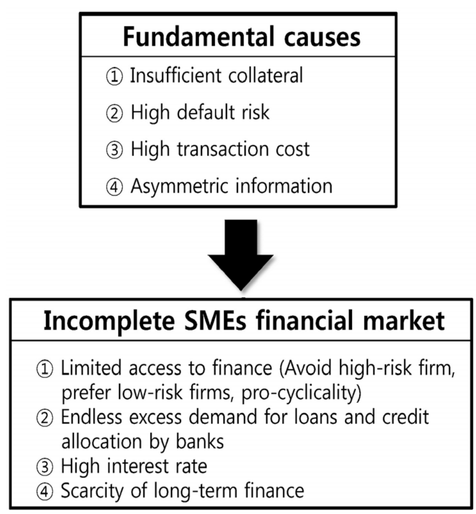


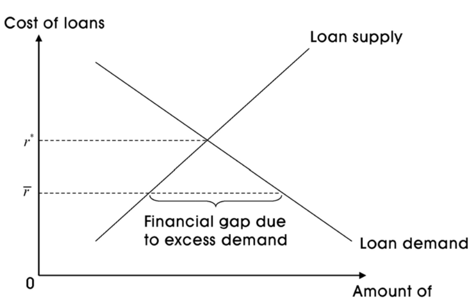
Table 1
Proportion of Korean SMEs' Contribution to Major Economic Indicators

	60's	70's	80's	90's	00's	10-13	1962～2013
# of enterprise	94.0	94.8	99.4	102.2	101.0	99.8	99.6
# of employee	38.1	47.1	81.9	-6.8	128.7	93.9	78.8
Production	26.5	32.2	45.7	50.3	47.8	52.9	47.0
Value-added	27.7	35.7	47.7	50.5	50.8	69.7	47.4

In the economic downturn, meanwhile, commercial banks show conservative lending behavior that reduces the funds for urgent high-risk enterprises and prefer relatively low-risk enterprises, in order to avoid an adverse selection problem. This situation supports the argument of Stiglitz and Weiss (1981) in that, if there is an incomplete information in the financial markets, market failure occurs because market interest rates could not measure the firms' demand of loans correctly.

In the imperfect loan market, the interest rate spreads among enterprises are expanded due to the credit gap. Also, the financial market interest rate is determined rigidly at low levels that do not match the supply and demand for loans. Due to the existence of asymmetric information, the rise of lending rates may increase the risk of a loan repayment. Therefore, private financial institutions will depend on the 'credit rationing', rather than raising interest rates. In other words, as we see in Figure 2, the equilibrium of the loan market does not accomplish at the rate which matches the demand and supply of funds (r^*) but is determined at the lower level ($\bar{r}$). It makes excess demand for loans by credit rationing.

Figure 2
Asymmetric Information and Excess Demand for Loan in SMEs



In the perspective of social welfare, this information asymmetry in the financial markets may cause inefficiency in the allocation funds and constrain financial institutions from supporting the promising investment opportunities. To relieve this type of market failure, policy makers cannot help doing credit rationing that forces to allocate limited funds to SMEs with lack of bank credit.

Therefore, policy financing implies government's intervention to the financial market for supplying fund to the promising SMEs which face excess demand for market loans in the private sector. In addition, policy financing serves to support accumulation of sufficient credit information about SMEs, so that ultimately drive voluntary loans from commercial banks.

In addition to the need for compulsory credit rationing of SMEs, the legitimacy of policy financing can be explained in terms of redistribution policy measures that overcome the practical limitations of commercial banks and intrinsic distortion of distribution caused by financial management tendency for SMEs. In other words, due to a large spread of performance-oriented management, there is a tendency to strengthen the profitability and safety of corporate loans. This trend exacerbate financial gap between SMEs and LEs.

In recent years, along with the global recession, Korean economy has been experienced slowdown associated with sluggish facility investment. This situation makes SMEs more difficult to provide funds from the commercial banks as their credit risk increase sharply. Considering the procyclicality of SME financing in a private sector, meaning that loans for SMEs decrease in recession phase while increase in expansion phase, demand for policy financing would be more increased during the economic crisis than the recovery phase of the business cycle.

2.3 Policy Financing Measures in Korea and the Role of CGS

Policy financing in Korea has been executed with various types according to 'financial and tax measures' (article 19) of the Framework Act on SMEs (enacted in 1966).[2] There are actually three types of

Table 2
Types of Credit Guarantee Schemes

	Credit guarantee model	Mutual guarantee model	Loan guarantee model
Operation	- The independent guarantee institutions operate the system autonomously. - The guarantee institutions intervene between SMEs and commercial banks substantially.		- Making a comprehensive contract with financial institutions that are mostly in charge of operating the system
Funding sources	Funded and invested by government and commercial banks	Funded by member enterprises	Government budget
Target firms	Unspecified enterprises	Member enterprises	Unspecified enterprises
Countries adopted	Most Asian countries	Most European countries	U.S.A., England, Canada

Source: KODIT (2012).

policy financing tools with seven public institutions.[3] First is the system for expanding available funds for SMEs such as the 'bank intermediated lending support' (formerly, aggregate credit ceiling loan) of Bank of Korea and the mandatory SME lending scheme of private banks. Second is the policy loan by the government, and the third is CGS to make up for the SMEs' weak security solvency and credit rating.

Among them, CGS can be called as the financial intermediary system that make SMEs raise funds smoothly in the financial market, through redeeming the lack of bank credit.[4] The CGS is implemented throughout the world, including underdeveloped countries as well as advanced countries, although its types are different by country as we see in Table 2. Also, credit guarantee balance is determined by political will that reflects the financial environment and demand for CG of SMEs.

The core operating entity of the public CGS in Korea is KODIT founded in 1976, among three institutions including KODIT; KOTEC established in 1989 to provide public guarantee for the SMEs that shows technological excellence; and 16 regional CGFs joined by public guarantee agencies in 1999 to serve debt guarantee for SMEs and small businesses with weak security solvency.

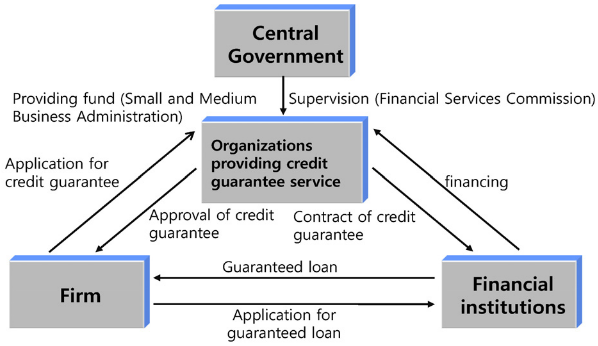
The governance structure of KODIT and KOTEC as in Figure 3 includes the super-

2) Article 19 of the Framework Act on SMEs, "① The government shall take measures necessary for smoothly financing small and medium business proprietors through facilitation of a steady supply of financial resources and credit and establishment of a credit guarantee system. ② The government may provide support through its taxation system, as prescribed by the Acts governing taxation, in order to implement its policies for small and medium businesses."

3) Major policy financing institutions in Korea include Korea Credit Guarantee Fund (KODIT), Korea Technology Finance Corporation (KOTEC), Korea Finance Corporation (KoFC), Korea Development Bank (KDB), Industrial Bank of Korea (IBK), The Export-Import Bank of Korea (KEXIM Bank) and Korea Housing-Finance Corporation(HF). Each institution's objective of establishment and main tasks are specified in their own foundation laws.

4) Purposes (Article 1) of Credit Guarantee Fund Act, enacted in 1974, December 21st describe as: "The purpose of this Act is to facilitate the financing of enterprises by establishing the Korea Credit Guarantee Fund and causing the Fund to guarantee the liabilities of enterprises which lack security solvency, and to contribute to the balanced development of the national economy by establishing sound credit order through efficient management and use of credit information".

Figure 3
Operation of CGS in Korea



vision of the Financial Services Commission, and funding from the Small and Medium Business Administration. Basically, KODIT and KOTEC form a financial intermediary structure by the third-party relationship where CG institutions support SMEs to facilitate their financial access, based on funding from Small and Medium Business Administration and private-sector financial institutions.

To maintain confidence as the public CGS and to secure the proper reserves for the payment by subrogation, the leverage ratio (i.e., the outstanding guarantee divided by capital fund) is restricted under 20 times of the total amount of the capital funds. As of 2015, the outstanding guarantee reached about 5.1 percent of the GDP (See Korean Statistical Information Service (KOSIS) for details).

Ⅲ. Usefulness and Performance of CGS

In what follows, we investigate the usefulness and performance of CGS in order to assess the roles of public credit guarantees. For the assessment of CGS, in order to appeal to external stakeholder including taxpayers, we focus on its public benefits associated with financial and economic additionality, and counter-cyclical effects in economic crises.

Additionality seems to be the primary usefulness of CGS. According to OECD (2010), it refers to the ability of CGS to support access to finance to SMEs which are credit constrained. Additionality also can be broadly interpreted as the economic performance including the survival of firms, growth and job creation.

Meanwhile, this additionality can be criticized in that it could disturb the market correction, and hence delay the exit of marginal firms. Whether the additionality of CGS is complimentary or negative to the market principle depends on the capability of the CGS to screen the potential firms among the credit constrained.

However, measuring additionality is controversial and difficult, because assessing additionality includes the identification of a correct credit guarantee non-users that have similar characteristics to those of credit guarantee users. Also, conflicting evaluations about the performance of credit guarantee have been proposed, based on the analysis of different samples and methodologies. While some researches such as Lim, Khil, Lee, Kim, and Chung (2013), Nam, Kim, Noh, and Kim (2014) and Noh, Rhee, Oh, Hong, Cho, and Kang (2010), Noh, Song, and Hong (2015) show significantly positive performance of CGS, researches done by Kim (2004), Kang (2007) and Nam (2014) yielded negative results.

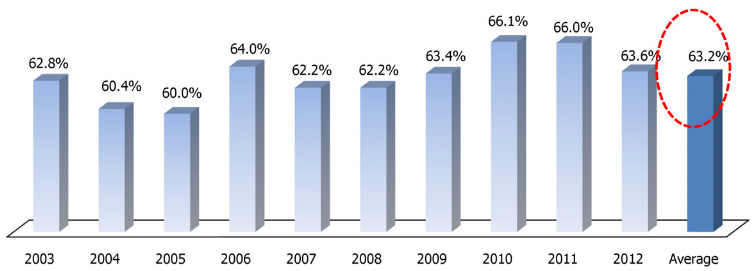
In general, the reason for conflicting performance comes from the problems associated with different samples and estimators used for the analysis, rather than derived from the premise of the pros and cons of the need for credit guarantees. This, in turn, raises the need for the evaluation of policy effectiveness about supporting credit guarantee on SMEs, through the development of proper performance indicators as well as methodologies.

3.1 Financial Additionality

What is the additional credit or financial benefits created by CGS? Extra loans that would not occurred without CGS or the longer term financing rather than short term would be the financial additionality of CGS if we can correctly measure the effects. Since there are not enough evidences about the financial additionality, and thus we may doubt about the existence of such an effect. However, a recent report of KODIT (2015) shows that CGS created, on annual average between 2003 and 2012, 63.2 percent financial additionality (see Figure 4).

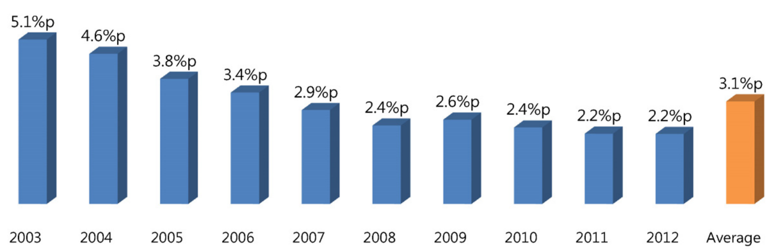
Korean CGS has tried to provide lower interest rates, compared to the rates charged by market principles, to the prospective SMEs. This 'financial additionality' explains well the legitimacy that public credit guarantee system is necessary to compensate for fixing market failure in SMEs financing. Figure 5 shows average lower interest rates associated with credit guarantee, defined as 'interest rate of credit loan - (interest rate of guaranteed loan + guarantee fee rate'. It was 3.1% point on annual average between 2003 and 2012. The effects of lower interest rates by credit guarantee are gradually reduced in the low market interest rate trend,

Figure 4
Average additional loans associated with credit guarantee



Note: Calculation is based on "(total loan payable-tangible assets that can be used as collateral) / total loan payable.
Source: Korea Credit Guarantee Fund (2015),

Figure 5
Average lower interest rates associated with credit guarantee



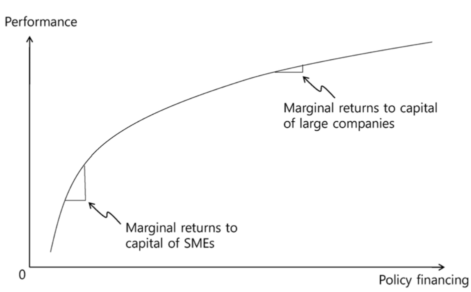
Note: Calculation is based on "interest rate of credit loan - (interest rate of guaranteed loan + guarantee fee rate."
Source: Korea Credit Guarantee Fund (2015).

currently 2.2% in 2012. Inevitably, financial additionality under the low interest rate economy would be relatively low.

3.2 Diminishing Marginal Returns to Capital

An empirically established proposition in economics, the principle of diminishing marginal returns to a factor means that, as illustrated in Figure 6, smaller enterprises can create even greater returns on investment with a relatively small capital investment, compared to mid-sized and large enterprises.[5] Therefore, the SMEs which are promising but facing insufficient funding, are willing to pay the higher level of lending interest rates than medium-sized and large enterprises. Thus, it is necessary to support SMEs by assigning funds through providing credit guarantees.

Figure 6
Illustration of Diminishing Marginal Returns to Capital



The principle of diminishing marginal returns to capital also implies a possibility that performance of policy financing measured by samples whose firm size is larger than the population underestimates the actual achievement of SMEs samples using policy financing.

3.3 Counter-Cyclical Fix and an Alternative to an Interest Rate Policy of Bank of Korea

It is well known that, from a macro perspective, public CG is a primary policy financing tool to ease business fluctuation. Furthermore, the CG would be expected to play a role as an economic and social safety net during a recession period. According to Noh et al. (2015), CGS affects positively economic growth and employment via increasing in investments by SMEs. Their policy simulation results using structural macroeconometric model show that the long-run multiplier about GDP of the credit guarantee is 0.46. When considering the annual average leverage ratio of 7.58 from 2010 to 2014, the multiplier effect of the CG reached 3.49, which is at least more than 3 times bigger than currently estimated government expenditure summarized in Sohn, Kim, and Whang (2013, p.24).

Noh et al. (2015) also showed that CGs expand employment of the entire economy by increasing investment and domestic demand. It was analyzed that supplying 100 million KRW (approximately, 85 thousand USD) of new CG creates about 1.08 new jobs. Therefore, CG can be evaluated as a useful policy tool that contributes to increase real value-added and its associated employment via the path of financing and expanding investment of the national economy.

Zero or negative policy interest rate of Japan and EU countries involves the possibility of a liquidity trap making monetary policy ineffective. In Korea, also, many professionals doubt about the effectiveness of the low interest rate policy for the recovery of economic growth. It seems that it is difficult to induce effective demand to recover business cycle because of the household debt problem in the consumption sector and loan market imperfection in the production sector. Through the interest rate policy by Bank

5) 'Law of diminishing marginal returns' in production theory describes that an increasing input causes the additional product of another input to be smaller than the additional product of the previous input at any domain of an input. For example, if firms continue to invest, eventually the efficiency of the investment would be decreased and hence firms' production.

of Korea, it is even more difficult to expect the expansion of loans for the promising SMEs troubled by the lack of funds in the recession period.

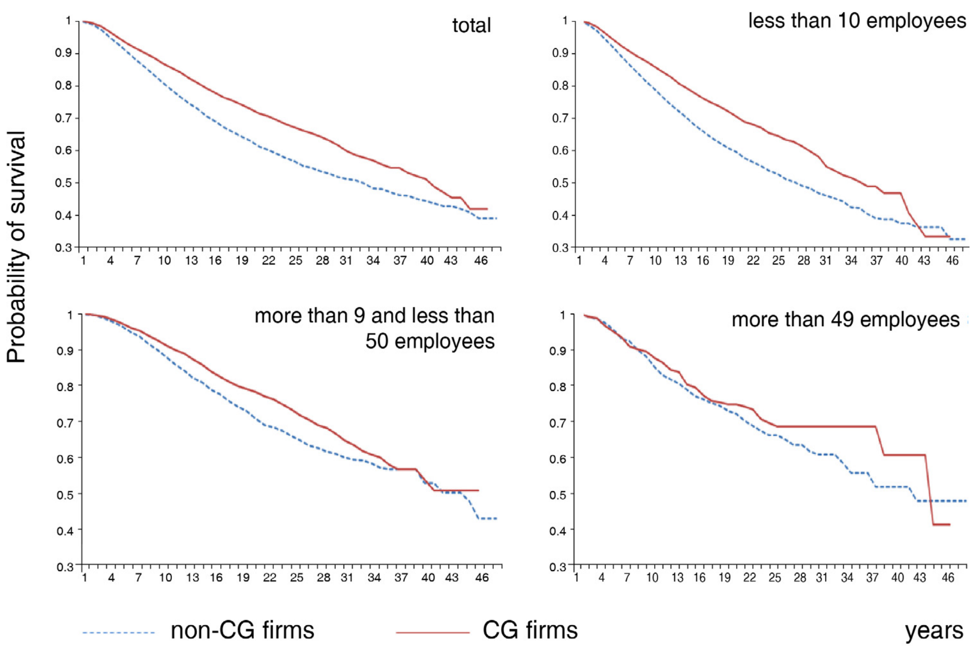
To stimulate business, CGS would be an effective alternative to an interest rate policy of Bank of Korea. CGS does support SMEs by screening firms that are willing to and likely to not only maintain employment and production but also create them additionally. Above all, the credit creation function of public guarantees has an advantage that is free from the risk of government deficit usually caused by the fiscal policy of quantitative easing.

In connection with this argument, the empirical analysis of Noh et al. (2010) has presented that the credit guarantee supply is a more effective choice than the interest rate policy to maintain a business upturn. Noh et al. (2010) in their study emphasized the necessity of a revitalization plan by providing competitive and promising SMEs an opportunity to take a loan directly as symptomatic treatment, rather than relying on an uncertain market function in the economy with low interest rates.

3.4 An Economic and Social Safety Net in Economic Crisis

Policy financing for SMEs refers to the economic and social safety net that keep our society through creating and maintaining the stable employment during the economic crisis. Since the 'Enforcement Rule of the Credit Guarantee Fund Act' (Article 5) regulates that the portion of guarantee on SMEs should be at least 60% of the total guarantee amount, SMEs become main targets of guarantee support during the crisis.

Figure 7
Survival Gaps between CG and Non-CG Firms



Note: For the duration of 45-year survival analysis for each group, the survival probability of each time is significantly estimated at the 5% or less level. Actually, the significance level is increasing as the duration is longer.
Source: Noh et al. (2015).

Table 3
Employment Retention Effects

Firm size	Total	Less than 10 employees	More than 9 and less than 50 employees	More than 49 employees
Survival gaps (A)	0.072	0.084	0.047	0.029
Average no. of employees (B)	11.5	3.4	20.5	158.6
A×B (C)	0.83	0.29	0.96	4.60
Total no. of obs.	58,036	45,772	10,380	1,884
Proportion of a firm-size category (D)	1.000	0.789	0.179	0.032
Employment retention effect (C×D)	0.83	0.23	0.17	0.15

Note: The proportion of a firm-size category (D) means ratios of each range in total number of enterprises. Also, the total employment retention effect is not necessarily the sum of sub-categorical effects, because survival gaps between CG and non-CG firms are separately estimated.
Source: Noh et al. (2015).

Based on the counterfactual reasoning of microeconomic impacts, Noh et al. (2015) by the total inspection of SMEs that used credit guarantees of KODIT during the period 2008~2013, shows that, in general, CG-firms reveals better performance than does non-CG firms. That is, in a microeconomic perspective, credit guarantee increases sales, productivity, employees, and/or profit of SMEs.

CGS can be the social safety net for workers who would be unemployed if there is no credit guarantee supply. Actually, Noh et al. (2015) empirically showed that the retaining jobs is an important public role of CGS. They used a sample of treatment group used credit guarantee between 2010 and 2014, to compare treated group. As we see in Figure 7, Kaplan-Meier survival ratios show that credit guarantee does have a significantly positive effect on retaining jobs. Survival gaps between CG and non-CG firms are greater as firm sizes are getting smaller.

The effect of employment retention in accordance with the supporting credit guarantees was estimated 0.83 people per enterprise on average, where the effect is calculated as multiplying 'survival gap between CG and non-CG firms' by 'the average number of regular employees per enterprise' (see Table 3). The larger the firm size, the greater the employment retention effect at the level term. However, considering the weight of the number of enterprises by size, the smaller the firm size, the greater the contribution to the employment retention.

Ⅳ. The Publicness and Roles of CGS

How do stakeholder of CGS, particularly government regulators, evaluate public guarantee institutions? What is the most important rationale for operating CGS at the national level? In this section, we investigate the assessment from the view of government officials and taxpayers. Institutions in public sectors have difficulties in having their performance and benefits assessed properly compared with private firms which can submit relevant numbers on their financial statement such as net profit and market share, etc. We would like to know how the government regulators measure the performance of public financial institutions such as guarantee companies.

First of all, we establish the concept of publicness of CGS and its associated elements. For the establishment of the concept differentiating 'public' from 'private', we used researches of Benn and Gauss (1983), Frederickson (1997) and Haque (2001). Also, we draw lessons from the management assessment of public organizations including Korean public corporations and quasi-government agencies.[6)]

The notion of 'publicness' can be defined by classifying between two opposing concepts, 'public' and 'private'; and can be categorized into the following three: (i) the role that is differentiated from the private sector (such as governmental characters, political characters and responsibility); (ii) communication and democratic procedure (such as external relationships, transparency, openness, exemplary public citizenship, equity and fairness); (iii) the use of resources and means, as well as profit distribution (such as public interest, sharability).

From the case studies about the management assessment of public corporations and quasi-government agencies, the following three implications can be found. First, although the notion of publicness is not explicitly presented in the assessment indicators of both public corporations and quasi-governmental agencies, the concept of publicness is implicit in the assessment criteria and its assessment process. Second, there are three assessment criteria about the roles of public organizations: (i) the provision of benefits related to social ties, such as consideration for the vulnerable and support to SMEs; (ii) differentiating roles from the private sector, such as the management of unprofitable business that cannot be offered in a private sector; (iii) the governmental aspect of publicness like compliance with government policies. Third, there is a tradeoff between profitability and publicness. This dilemma associated with effects of publicness on profitability and the tolerant range of management should be well recognized by and sympathized with stakeholder of organizations including budget authorities, national assembly, and media.

For example, the weakness of credit guarantee account related to the shipping industry crisis at the present time, which is associated with debt payment pressure of the shipping companies, would be the representative example conflicting profitability and publicness. KODIT, in 2013, supported countermeasures to a shipping industry stranded in a crisis, with relaxed evaluation, but it turned out that its effectiveness is limited.

CGS is an independent financing system where one credible third party reduces the default risk of SMEs who is lack of bank credit, based on the potential credit capacity of the promising SMEs. CGS involves public factors in that it utilizes fund raised by government. Thus, the publicness of CGS could be obtained from the distinctive role that communicates people and complies with democratic procedures when they use and distribute the public resources and means.

In this regard, the high accident rate of credit guarantees, just after the economic recession, means that the credit guarantee played a public role. This is because the accident rate of credit guarantees shows the tendency to become high when the recovery is delayed after the credit guarantee performed a counter-cyclical function. Also, in the economic recession, there is the necessity of the government's role differentiated from private sector, due to the acceleration of recession and deterioration of financial difficulty caused by the strengthened risk management of the private financial companies. Therefore, the CGS's deterioration of financial management, such as the rapid growth of accident rate, ought to be recognized as a phenomenon of publicness that differentiated from a private sector.

An institution governing CG is a quasi-governmental agency with a publicness of non-profit purpose. Although the differ-

6) To find out the performance model about publicness of CGS and its related indicators, we refer Ministry of Strategy and Finance (2015a, 2015b). We focus on the case studies of the "Report on Management Assessment of Public Institutions 2014: the Public Corporation Part 1 and the Fund Management of Quasi-government Agencies". Among the four categories of management assessment (i.e., small giant types, public corporations, implementation of contracting-out, and fund management), two types of 'public corporations' and 'fund management' that contains KODIT were selected for the investigation of evaluation indicators, opinions and comments about 'publicness.'

Table 4
An Assessment Model for the Publicness of CGS: An Illustration

Criteria for the assessment of publicness	Related indicators on the assessment of publicness
Roles differentiating from private sectors	- No. of CG supplied to start-ups and growing SMEs - CG based on future values rather than credit ratings based on past business performance
Transparent and democratic management through communication among stakeholder	- Utilization of public census survey - Consultation with supervisory departments and budget authorities on the optimal level of default rate - Efforts to induce internal consensus on compliance with government policy
Provision of comprehensive benefits	- Accessibility of CGs for the vulnerable, (pre) start-ups and rechallenging businesses - Encouraging CSR - Job creation

entiated role from private is the main conceptual element of the publicness for the credit guarantee, considering the dilemma from the profit deterioration, both the consensus among stakeholder and the system improvement are needed. Given the general concept of publicness and characteristics of the credit guarantee system, 'the model of publicness regarding CGS' needs to be based on the following categories of publicness in Table 4.

First is the role that could not be served by the private sector. In this regard, screening process of CG firms must be based on the future growth of firms. Credit guarantees for the start-ups and growing SMEs are suitable for this criteria.

Second is the transparent and democratic management through communication among stakeholder. A public CG institution in this regard should build up consensus with stakeholder (e.g., national assembly, fiscal authorities, and a supervisory department) about the trade-off dilemma between publicness and profitability.

Third is the provision of comprehensive benefits to the economy. The CG institution should make efforts to improve the accessibility of credit guarantees for the vulnerable, start-ups and rechallenging businesses. Supplying credit guarantee to encourage 'corporate social responsibility'(CSR) also would be beneficial to the economy. Indicators regarding job creation are appropriate for the people's eye-level about the publicness.

Ⅴ. Concluding Remarks: The Publicness and Long-Run Competitiveness of CGS

It is still controversial about the effectiveness of policy financing on the SMEs. Criticism on policy financing involves the argument that supporting enterprises hampers competition and innovation of SMEs by increasing their dependence on the government and delays the exit of marginal firms. On the other hand, contrary to the above criticism, the target firms of policy financing are restricted to promising SMEs rather than blue-chip companies. In addition, CGS played a public role as a social safety net for the employed who might be unemployed in the absence of policy financing.

In this study, with both macro and micro perspectives, we proposed performance and evaluation of publicness for CGS. We believe that CGS should strengthen its competitiveness in a long-term perspective to survive SME finance market as one of the major policy toolkits. At the same time, to reach the conclusion, we propose the ways to coexist of public credit guarantee and market-based private finance system for SMEs.

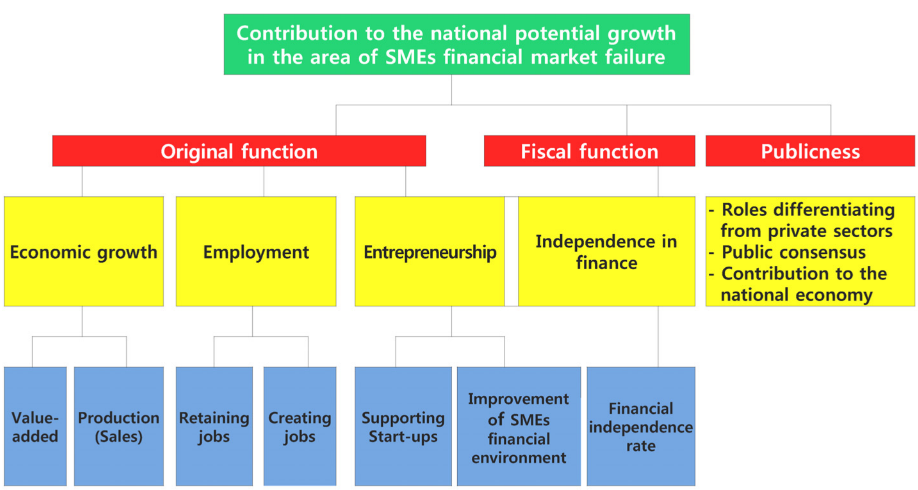
First, the public CG institution should share the justification of CGS with market participants such as government, SMEs, and taxpayers. They need to know that CGS as a counter-cyclical function must coexist with the private financial system by compensating the market failure caused by pro-cyclical behavior of the private financial market. The public guarantee institution is not a profit-seeking agency, but a public financial institution that serves to screen and support promising SMEs which have business competitiveness, growth potential, and technological ability.

Second, it is important to emphasize that CGS, as a counter-cyclical measure, has the comparative advantages, compared to both the interest rate policy of the central bank and fiscal policy of the government. The credit guarantee is the symptomatic treatment that could revitalize the economy shortly by providing liquidity, whereas the effects of fiscal and monetary policies are indirect, doubtful and unpredictable. Knowing that CGS is provided based on the leverage ratio defined by outstanding guarantee divided by capital fund, public guarantee has an advantage that is free from the risk of government deficit caused by the fiscal policy of quantitative easing.

Third, the reason for existence of the credit guarantee system should be founded in supporting services for SMEs, available only in a public sector that is difficult to expect from private banks. In this regard, it is desirable to strengthen the publicness of credit guarantee over the support for start-ups and growing companies. Considering SMEs reveals low productivity and relatively small proportion of exports, for the sustainable economic growth of Korea, it is necessary to strengthen support of CGS for the improvement of productivity and increase of exports. Also, the main business contents of CGS must focus on providing policy-oriented credit guarantees that is avoided by the private sector, which include a long-term investment in facilities and support for the employment-creating businesses, innovative enterprises, green growth businesses, and export enterprises.

Fourth, in order to "maintain and expand the growth potential of the national economy" under the financial market failure areas, the harmonization of original and fiscal functions, and the publicness of credit guarantee

Figure 8
Harmonization of Original and Fiscal Functions, and the Publicness of Credit Guarantee: An Illustration



is required, as illustrated in the Figure 8. To facilitate the original and fiscal functions of CG, it is necessary to make a plan for constant feedback system over the internal and external evaluations. The public guarantee institution is operating a financial fund to pursue the publicness rather than pursuing profits, and their supporting area is different from the commercial banks. Thus, it needs to be emphasized that even though supporting targets of the public guarantee institution are fiscal subprime enterprises causing some subrogation inevitably, the public guarantee institution is managing the situation at an acceptable level.

Fifth, this study emphasized the expansion of credit guarantee must be made on the assumption of operational efficiency of CGS over enhanced risk management. The management authority of CGS is required to induce SMEs' self-effort such as innovation and restructuring, and the improvement of the financial structure. It is also necessary to make an effort to minimize accidents caused by increasing credit guarantee, through verifying the use of guaranteed loans and strengthening monitoring.

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공적보증의 효과성과 시장기반 금융제도와의 공존

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한국 정부는 효과적인 경기대응 수단으로 공적보증을 이용해 왔다. 그러나 공적보증과 같은 중소기업에 대한 정책금융의 효과성에 대해서는 아직 논란이 해소되지 않았다. 비판적인 견지에서 보면 정책금융이 오히려 중소기업의 정부에 대한 의존도만 증가시켜 기업 스스로의 경쟁과 혁신을 방해하고 한계기업의 퇴출을 지연시킨다는 논리이다. 따라서 이 논문은 공적보증시스템의 운영은 어떻게 자리 잡아야 하며, 동시에 시장기반 중소기업 금융시스템과 어떻게 공존해 나가야 하는지에 대해 구체적 의견을 제시하고 있다.

첫째, 공적보증은 민간금융시장의 경기 순응적 행태가 초래하는 시장실패를 보완하기 위한 경기대응수단으로 이용되어야 하며, 정부, 국회, 납세자를 포함하는 이해관계자들과 이에 대한 인식을 공유해야 한다. 공적보증기관의 목적은 이윤추구가 아니라 성장 가능성이 높은 중소기업을 선별하여 지원하는 공공성의 확보에 있음을 명확히 할 필요가 있다. 둘째, 공적보증은 자금을 필요로 하는 중소기업에게 직접적으로 유동성을 공급해 줌으로써 단기간에 경기를 회복시킬 수 있는 대증적 처방이라는 점에서 한국은행의 이자율정책의 효과가 낮을 때 사용할 수 있는 중요한 정책대안이다. 특히 공적보증은 자본금에 근거한 운용배수 범위 내에서 공급이 이루어지므로 정부재정 정책 시 우려되는 재정적자의 위험으로부터 상대적으로 자유롭다는 장점을 지닌다. 셋째, 공적보증의 존재는 창업기업, 성장기업, 생산성 향상, 수출향상, 장기시설투자, 고용창출 사업, 그리고 혁신기업 지원과 같이 민간은행으로부터 기대하기 어려운 서비스의 제공에서 찾아야 한다.

주제어 : 중소기업금융, 신용보증, 공공성, 금융부가성, 경제적 부가성

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