Proceedings of 2022 Asian Conference on Crisisonomy
(20 ~ 23 July, 2022; Jeju National University; Asian Association for Crisisonomy)

Analysis of the Effectiveness of Policy Guarantee Support under the COVID-19 Pandemic Economic Crisis

Jin Hwa Kim[1+], Jae Eun Lee[2#]

[1]Korea Credit Guarantee Fund(Kodit), 7 Cheomdan-ro, Dong-gu, Daegu, Korea
[2]Department of Public Administration, Chungbuk National University, 1 Chungdae-ro, Seowon-Gu, Cheongju, Chungbuk, Korea

A B S T R A C T

The purpose of this study is to suggest some policy implications by analyzing the support effectiveness of policy guarantees supported through the supplementary budget. During the COVID-19 period, the sales growth rate of the policy guarantee beneficiary companies was about 4.98% and the employment growth rate was about 0.46%, indicating a significant difference in growth potential compared to the non-beneficiary companies. First, among the economic crises caused by COVID-19, the crisis response through policy guarantees was relatively appropriate. Second, it is necessary to maintain an 'appropriate' level of support for 'necessary' economic sectors according to the government's policy direction. Third, policy guarantee support can be effectively used as one of crisis response policies based on the effectiveness of the policy. Fourth, it is necessary to prepare for preemptive policy guarantee support by operating the crisis prediction system. Fifth, it is necessary to identify and prepare for possible crises after COVID-19 at the present time. In order to prepare for a crisis, policy guarantees need to be adjusted to an appropriate level in connection with the nation's 'fiscal policy' and 'monetary policy' while focusing on 'corporate resilience'.

Key words: COVID19, policy guarantee support, economic crisis, effectiveness

1. Introduction

Due to the novel COVID-19 that occurred at the end of 2019, the world was faced with an all-round social and economic crisis. COVID19 recorded a large number of confirmed cases and an explosion in deaths through very strong transmission power, and each country implemented unprecedented strong social distancing, such as blockade of their own and local communities, self-isolation, and restrictions on travel. With the outbreak of the first COVID-19 patient in January 2020, Korea faced a national crisis in all sectors, including society, economy, and culture, including a sharp decline in exports, a crisis in the manufacturing and service industries, small and medium-sized businesses due to contraction in consumption, self-employment crisis and employment shock.

In 2020, the global economic growth rate was -4.2%, indicating a very serious recession. Korea also experienced a recession due to the COVID-19 pandemic, recording an economic growth rate of -1.3% in the first quarter of 2020 and about -3.2% in the second quarter of 2020. In order to respond to two disasters, the infectious disease crisis and the economic crisis, the Korean government has implemented a policy to overcome the economic crisis related to COVID-19 through a large-scale supplementary budget since March 2020.

The policy support goals for SMEs in the economic crisis caused by COVID-19 are as follows. First, the response to the crisis faced by SMEs is to ① stabilize the loan market and ② prevent the credit crisis from escalating. Second, it is to prevent SMEs from going bankrupt in the surplus by blocking the credit crisis. Third, it is necessary to effectively support SMEs through accurate business diagnosis and to strengthen the competitiveness of flagship companies.

After the outbreak of the COVID-19 economic crisis in January 2020, Korea provided approximately 96 trillion won in financial support for relief from the COVID-19 pandemic and economic recovery through five additional budgets until March 2021.

As a result, this fiscal expansion policy led Korea's real GDP decline to -1.0% in 2020, and is evaluated to have recorded the smallest economic recession

among the G-20 economies of advanced countries1. As a result, the national debt is growing rapidly. Korea's national debt-to-GDP ratio has continuously increased from 11.1% in 1997, before the financial crisis, to 29.8%, until 2010, after the financial crisis. And due to the current COVID-19 pandemic, it is soaring to about 43.8% as of 2020. By 2024, the national debt is projected to rise to 54.7% of GDP(National Budget Office, 2021: 34). As the national debt increases, the amount to be paid as interest increases, so there is a limit to flexibly organizing the finances as needed. And the possibility of financial investment for the next generation is also limited.

In this study, the crisis caused by COVID-19 is defined as a disease, social and economic complex crisis caused by a pandemic. The purpose of this study is to analyze the effectiveness of overcoming the economic crisis through policy guarantee support for SMEs and draw policy implications by examining the scale of government policy guarantee support for the economic crisis triggered by the COVID-19 pandemic.

2. The Nature of the COVID-19 Pandemic Economic Crisisd

2.1. Causes of the COVID-19 Pandemic Economic Crisis

The economic crisis triggered by COVID-19 is very different from the previous economic crises in terms of causes. Previous economic crises were mainly caused by human-created causes within the capitalist system. The foreign exchange crisis in East Asia including Korea in 1997 was caused by short-term borrowing of foreign currency, reckless business expansion of companies, and the aftermath of the exchange rate war in East Asia. The 2008 global financial crisis was caused by overlooking the risks of subprime mortgage loans. However, the capital market crisis caused by the COVID-19 pandemic occurred due to the spread of the infectious disease called COVID-19, global border closures, and a shock to the service industry. The fact that the disease has brought catastrophic global damage and economic crisis is closely related to the way the global economic structure operates. The structural and economic causes of this pandemic economic crisis are as follows.

First, capitalist economic development. The infectious disease and economic crisis caused by COVID-19 have shown more rapid and widespread damage in advanced economies such as the United States and Europe, where capitalist development has advanced. The economic growth accompanied by the loss of the natural environment and the commercialization of life for the pursuit of profit became the trigger for the emergence of the virus. At the same time, the system complicated by the capitalist value chain further amplified the economic crisis.

Second, urbanization. With capitalist economic development, half of the world's population is now concentrated in large cities. With capitalist economic development, half of the world's population is now concentrated in large cities. The high population density due to urbanization has made the structure very vulnerable to infectious diseases caused by garbage and transportation networks. The concentration of people in cities has contributed to the spread of the pandemic.

Third, globalization. Although globalization is not the direct cause of the COVID-19 infectious disease crisis, it has caused the explosive expansion of the pandemic and difficulties in quarantine. The ability of the COVID-19 pandemic to spread around the world in such a short time is due to the world's stronger connection than ever before in history. The structure in which the entire process of goods and services, supply and demand are intertwined in the single space of the world provided a multifaceted route for infectious diseases.

2.2. Characteristics of the COVID-19 Pandemic Economic Crisis

In addition to the characteristics of previous economic crises such as the Asian financial crisis in 1997 and the global financial crisis caused by the subprime mortgage crisis in 2008, the global economic crisis caused by the COVID-19 pandemic has the following characteristics (Kim, et. al., 2020; Hong, 2020).

First, it is a global economic crisis. The scope of the economic crisis was not limited to any one country or region, but occurred simultaneously all over the world.

Second, there is a characteristic that the previous economic crisis was not resolved. In general, an economic crisis refers to a phase of rapid economic downturn that occurs after an economic boom period. However, the COVID-19 pandemic economic crisis occurred while the global economy did not fully recover from the financial crisis and the Great Recession caused by the subprime mortgage crisis in 2008. The economic crisis occurred when the additional economic policies available to the govern-

[1] IMF Press Release. https://www.imf.org/en/News/Articles/2021/04/29/na042921-mountains-after-mountains-korea-is-containing-covid-19-and-looking-ahead

ment were very limited. After the 2008 financial crisis, a new economic crisis was encountered with most of the economic policies available to each country, including active quantitative easing policies. Therefore, the use of additional economic-related policies was very limited.

Third, it is an economic crisis that did not bring about an extreme and immediate crash like 'Black Monday', which is common in economic crisis situations. Although the global macroeconomy is in a state of slow or negative growth, it has not been accompanied by a dramatic collapse in the general economic crisis caused by economic causes.

Fourth, it is an economic crisis accompanied by very large uncertainties. If uncertainty in economic policy increases amid economic recession, the global economy may fall into an unpredictable quagmire.

Fifth, it is an economic crisis in which shocks to supply and demand occur simultaneously. For example, the economic crisis caused by the Spanish flu of 1918 had a shock mainly on the demand side, but not much on the supply side. In addition, the 2008 global financial crisis caused a shock in the financial market that had a shock to the supply side. However, the economic crisis caused by the COVID-19 pandemic has spread rapidly worldwide, shocking both supply and demand sectors at the same time.

2.3. Future Prospects of the COVID-19 Pandemic Economic Crisis

To cope with the COVID-19 economic crisis, countries have implemented active fiscal policies and liquidity supply. The economic crisis triggered by COVID-19 is subsiding to some extent as countries respond quickly and closely and take active measures such as quantitative easing to respond to the crisis. However, the rebound in the stock market and the short-term recovery of the real economy have not completely resolved the future uncertainty caused by COVID-19. The COVID-19 virus continues to mutate, and concerns about re-spreading of COVID-19 remain.

Factors affecting the economy still remain. Unemployment and inventory, the continued slump in the real economy, and inflation in raw materials and real estate make the economy in the post-coronavirus era unoptimistic. The figure below shows the upward trend of the consumer price index in Korea following the quantitative easing policy after the COVID-19 economic crisis. With the outbreak of the COVID-19 crisis, the liquidity supply that had been implemented in the previous financial crisis continued. As a result, the capital market temporarily stabilized and stock prices turned upwards around the world. However, it is difficult to say that this phenomenon has resolved the crisis across the financial market. From the second half of 2021 to the present, the continuous quantitative easing has led to rapid inflation, raising the issue of interest rate hikes.

As of March 2022, the lending rate of commercial deposit banks is 3.5% (receipt rate 1.74%), showing a sharp upward trend from 2.77% (receipt rate 0.86%) in March 2021 during the COVID-19 crisis. The consumer price index is a statistic based on 100% in 2020, and as of April 2022, it is showing about 106.85%. Inflationary pressure from liquidity expansion policy suggests that the global economic crisis triggered by COVID-19 may lead to another crisis.

3. Evaluation of the Effectiveness of Policy Funding Support

3.1. Meaning of Policy Funding Effectiveness

The justification of the government's policy funding lies in the purpose of the policy that the government wants to achieve (policy purpose) and market failure (Stiglitz and Weiss, 1981). For this reason, government intervention in the market is necessary. As a form of government intervention in the market, policy finance for SMEs is provided. The meaning of SME policy finance is as follows. "When funds are supplied to SMEs, it is a way of government intervention to solve market failures in the private financial market. And it can be defined as finance that provides preferential treatment to private financial institutions in terms of loan conditions such as interest rates and repayment period and availability of funds"(Lee, 2011).

Compared to large enterprises, SMEs have very limited access to information that financial institutions generally need to carry out. Due to 'information asymmetry', it is very difficult for financial institutions to determine the credit status of SMEs in the loan review process. Accordingly, financial institutions restrict the supply of funds to SMEs through 'credit rationing', and market failure occurs in that adequate funds cannot be supplied through the market. For this reason, the government supplies policy funds to SMEs for policy purposes. Credit rationing means 'to limit loans to a level lower than the appropriate amount in order to reduce the occurrence of moral hazard for borrowers, or to reject loans to some borrowers to avoid adverse selection'.

First, there are cases of intervening in the market to seek equity between members of society and companies, to protect the weak, and to build a social safety net(Lee, 2006).

Second, it is necessary to supply funds in consideration of the externalities of SMEs with excellent technology and innovativeness, which cannot be solved by private financial institutions that pursue only profitability(Kim, 2005). However, the gov-

ernment's financial support for SMEs does not always guarantee efficiency. X-inefficiency (low govern
ment performance, government inefficiency) and factors of government failure due to excessive government intervention in the market exist. Therefore, evaluation of the effectiveness of SME policy funds is a necessary research task to achieve the purpose of government policy finance support and to secure the justification of the support.

<Table 1> Types of financial ratios for financial analysis

Types	Financial Ratio	Ratio Analysis (Formula)
Stability	Current Ratio (%)	Current Assets / Current Liabilities
	Equity Ratio (%)	Total Equity / Total Assets
	Debt Ratio (%)	Total Debt / Equity
	Borrowing Dependence (%)	Debt / Total Assets
	Non-current asset to stockholder's equity and non-current liability (%)	Non-current Assets / (Stockhoder's equity + Non-current liability)
Profitability	Pre-tax Profit from Continuing Operations to Total Assets (%)	Pre-tax Profit from Continuing Operations / Total Assets
	Pre-tax Profit from Continuing Operations to Sales (%)	Pre-tax Profit from Continuing Operations / Sales
	Interest Expenses to Sales (%)	Interest Expenses / Sales
Activity	Total Assets Turnover Ratio	Sales / Total Assets
	Working capital rotation period	Working Capital / Sales
	Inventory asset rotation period	Inventory / Sales
Productivity	Value Added Ratio (%)	Added Value / Sales
	Equipment investment efficiency (%)	Added Value / (Property, Plant and Equipment – Construction in Progress)
	Total Assets Investment Efficiency (%)	Added Value / (Prior Period Assets + Current Period Assets) / 2)
Growth	Total Assets Growth Rate (%)	(Current Period Assets – Prior Period Assets) / Prior Period Assets
	Sales Growth Rate (%)	(Current Period Sales – Prior Period Sales) / Prior Period Sales
	Net Profit Growth Rate (%)	(Current Period Net Profit – Prior Period Net Profit) / Prior Period Net Profit * 100
Cash Flow	Operating Cash Balance Rate (%)	Operating Cash Income / Operating Cash Expenditure
	EBITDA To Interest Coverage Ratio	EBITDA / Interest Expenses
	Total Debt to Operating Capital Ratio (%)	Operating Capital / Total Debt
	Cash Flow to Current Liabilities (%)	(Net Profit + Depreciation + Amortization of Intangible Assets) / Current Liabilities

3.2. Types of Financial Ratios for Measuring Financial Performance

Measurement of financial performance is generally performed through financial analysis. Financial analysis refers to all kinds of analysis to understand the current and past business performance and financial status of a company and to identify the cause by using accounting data and related data, such as the company's financial statements.

This provides useful information for business decision making by predicting the future state of the company. Financial ratios used in financial analysis include stability, profitability, activity, productivity, growth potential, and cash flow ratio. The formulas required to calculate each financial ratio are as follows.

3.3. Review of Previous Research

3.3.1. The Effectiveness of General Policy Guarantee Support

The effectiveness of credit guarantee support can be divided into several dimensions depending on how the dependent variable is set. The contents of previous studies analyzing the effect of credit guarantee support in the macroeconomic dimension such as economic growth rate are as follows.

Eugene, et. al.(2011) empirically analyzed the macroeconomic effects of credit guarantees. The macroeconomic production ripple effect of credit guarantee support in 2010 was measured to be

KRW 1.471.9 trillion. It was found that the real GDP growth rate after 1Q was increased due to the increase in the guarantee balance. As the size of guarantee increases, the size of employment in the national economy also increases.

According to Lim, et. al.(2011), economic growth has a negative (-) effect on the supply of credit guarantees, and an increase in credit guarantees has a positive (+) effect on economic growth. It was analyzed that there is a two-way causal relationship between credit guarantee and economic growth.

The contents of previous studies on the effect of credit guarantees on the economic performance of guarantee beneficiaries, that is, microscopic performance analysis of credit guarantees, are as follows.

Shin, et. al. (2010) analyzed the effect of credit guarantee support on SME performance from 2000 to 2007 using data held by the Korea Credit Guarantee Fund and Korea Business Data. The effect of credit guarantees was not significant when the size of guarantees was reduced. It was analyzed that the smaller the size of the guarantee support and the longer the guarantee period, the positive (+) correlation was shown on the company's performance.

Kim, et. al. (2013) analyzed the improvement of financial indicators from 2005 to 2010 for companies that received credit guarantee support and companies that applied for credit guarantee but were rejected. As a result of analyzing the improvement status of financial indicators by growth potential, profitability, activity, productivity, and stability, it was analyzed that companies with guarantees were effective in improving financial indicators compared to companies without guarantees in all categories.

3.3.2. The Effectiveness of Policy Guarantee Support under the Economic Crisis

Kim (2012) pointed out that in the fourth quarter of 2008, when the financial crisis broke out, Korea's economic growth rate recorded –3.3%. At that time, through various government policies, the Korean economy showed a faster-than-expected economic recovery, with economic growth rates of 0.2% in 2009 and 6.3% in 2010. An empirical analysis was conducted on the hypothesis of an increase in GDP due to the government's temporary expansion of fiscal spending and tax cuts. As a result, it was argued that the temporary expansion of fiscal spending was significantly verified for the actual increase in GDP.

Nam (2015), through an international comparison of changes in the size of credit guarantees during the 2008 global financial crisis, suggested that the size of public guarantees in Korea increased rapidly after the global financial crisis. He emphasized the need for policy authorities to analyze how and how to properly operate the size of credit guarantees in the indirect financial market (loan market). It was confirmed that the credit guarantee ratio affects the business value of a company and has the effect of reducing the default rate of the company through the loan interest rate determination process.

Noh & Hong (2016) conducted a study on the effectiveness of public guarantees. First, public guarantees should be used as a counter-cyclical measure to compensate for market failure caused by procyclical behavior in the private financial market. It should be clarified that the purpose of public guarantee institutions is not to pursue profit, but to secure publicity by selecting and supporting SMEs with high growth potential. Second, public guarantees are a symptomatic prescription that can stimulate the economy in a short period of time by directly supplying liquidity to SMEs in need of funds. When the effect of the Bank of Korea's interest rate policy is low, a policy alternative that can be used is public guarantees. Third, the reason for the existence of public guarantees should be found in the provision of services that are difficult to expect from private banks, such as start-up companies, growth companies, productivity improvement, export improvement, long-term facility investment, job creation projects, and support for innovative companies.

<Table 2> FTP effectiveness evaluation indicators

Effectiveness Analysis Indicators	Relevant Financial Ratio
Stability	Current Ratio
	Interest Coverage Ratio
Profitability	Operating Income To Sales
	Return On Equity(ROE)
	Return on Assets(ROA)
Growth	Sales Growth Rate
	Operating Profit Growth Rate
Activity	Total Assets Turnover Ratio
Employees Growth	Employee Labor Cost Growth

Choi(2012) attempted to analyze the effectiveness of policy finance support through the fast track pro gram during the global financial crisis. He selected five indicators of effectiveness. He suggested that FTP policy financial support has a positive effect on the growth potential (sales and operating profit growth rate), activity, and employment size of companies.

4. COVID19 Pandemic Economic Crisis Policy Guarantee

4.1. COVID19 Pandemic Economic Crisis Policy Guarantee Support Status

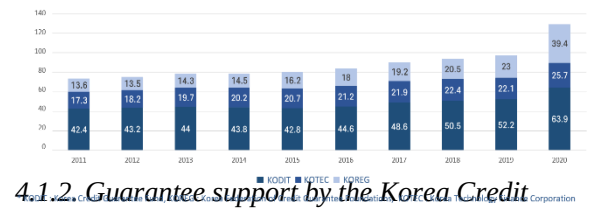
4.1.1. Credit Guarantee Support Trend

The trend of credit guarantee support in Korea through credit guarantee institutions is shown in the figure below. Korea's credit guarantee support has increased every year since 2014. As a result, at the end of 2020, a total of 129 trillion won was supported, showing a sharp increase of about 31.7 trillion won in 2020 (compared to 2019) when the supplementary budget was expanded to respond to the COVID-19 economic downturn. This represents the highest support performance ever recorded.

<Figure 1> Credit guarantee supply statistics (KODIT Annual Report)

Credit Guarantee Supply Trend (KR.₩, trillion)

	2014	2015	2016	2017	2018	2019	2020
KODIT	41	41	42	44	46	47	55
KOREG	14.5	16.2	18	19.2	20.5	23	39.4
KOTEC	20.2	20.7	21.2	21.9	22.4	22.1	25.7
합계	78.5	73.7	83.8	89.7	93.4	97.3	129.0



4.1.2. Guarantee support by the Korea Credit Guarantee Fund

After the COVID-19 crisis in 2020, the Korea Credit Guarantee Fund significantly expanded credit guarantee support for small and medium-sized enterprises (SMEs) with weak crisis response capabilities through the government's COVID-19 supplementary budget. The Korea Credit Guarantee Fund provided the largest amount of guarantees of KRW 67,153.1 billion (as of the end of 2020), including support for innovative growth areas such as support for vitalization of the new business ecosystem.

As a result of the expanded support for policy guarantees for companies affected by COVID-19, general guarantees of the Korea Credit Guarantee Fund (compared to 2019) increased by KRW 7.73 trillion and securitization company guarantees (compared to 2019) by KRW 3.94 trillion. Guarantee supply has been expanded through supplementary budgets such as consignment guarantees for guarantee support for small business owners and COVID-19-related securitization company guarantees (P-CBO). As a result, the total guarantee supply amounted to KRW 65,375.8 billion (compared to 2019), KRW 16,287.9 billion, and the amount of new guarantee supply for general guarantees was KRW 17,681.8 billion, an increase of KRW 5,871.8 billion compared to the previous year.

<Table 3> Guarantee Balance in COVID-19 (KODIT Annual Report)

◎ Guarantee Balance by Years (KR.₩, 100 million)

Guarantee Types	2019y (A)	2020y (B)	Difference (B-A)
General Guarantee	472,231	549,536	77,305
Small Business Consignment	-	32,689	32,689
P-CBO	43,028	33,504	△9,524
Main Idustry P-CBO	6,876	22,050	15,174
COVID-19 P-CBO	-	33,752	33,752
Market stability special	26	-	△26
Total Guarantee	522,161	671,531	149,370

4.2. COVID19 Damage Special Guarantee Support

On March 13, 2020, the Korea Credit Guarantee Fund implemented the 'Special Guarantee for Small and Medium Enterprises Damaged by COVID-19'. In this regard, on February 18, 2020, the Financial Services Commission notified each policy institution of the ‘Measures for handling financial support for companies affected by COVID-19’ to provide financial support to companies affected by COVID-19. Through this, the preferential guarantee program for companies affected by the novel COVID-19 was implemented. On March 13, 2020, the ‘Guidelines for the Operation of Special Guarantee for Small Businesses Damaged by COVID-19’ started a plan to support special guarantees for SMEs affected by imports and exports and SMEs directly or indirectly affected by COVID-19. In addition, the ‘Guide

<Table 4> Contents of special guarantee support related to the COVID-19 crisis(Kodit)

Guarantee Support	1st Special Supply	2nd Special Supply	3rd Special Supply	4th Special Supply
Effective Date	2020. 03. 13.	2020. 09. 23.	2021. 01. 14.	2021. 09. 28.
Support Target	SMEs affected by imports and exports, etc.	SMEs directly or indirectly affected by COVID-19	SMEs directly or indirectly affected by COVID-19	SMEs directly or indirectly affected by COVID-19 or Raw material-damaged
Support Details	Working Capital ₩300 million	Working Capital ₩300 million	Working Capital ₩300 million	Working Capital ₩300 million Bus Trans:10M
Support Scale (Total)	₩1.1 trillion	₩1.5 trillion	₩1.5 trillion	₩1.0 trillion
Guarantee Rate	95%	95%	95%	95%
Guarantee Fee Rate	0.3% cut down (Max 1.0%)	0.3% cut down (Max 1.0%)	0.3% cut down (Max 1.0%)	0.3% cut down (Max 1.0%)
Guarantee Limit	Sales Limit 1/2	Sales Limit 1/2	Sales Limit 1/2	Sales Limit 1/2
Other Support	Extension of maturity (same amount)	Extension of maturity (same amount)	Extension of maturity (same amount)	Extension of maturity (same amount)

<Table 5> Contents of special measures related to the COVID-19 crisis (Kodit)

Guarantee Support	Disaster Special	COVID-19 Special Measures	Special Guarantee for Bus Companies
Effective Date	2020. 03. 25.	2020. 07. 06.	2021. 04. 16.
Support Target	Companies affected by local location(Daegu, Cheongdo,etc, COVID-19)	All SMEs (Subject to Guarantee)	Bus transportation industry, etc.
Support Details	Working Capital ₩300 million	Working Capital ₩300 million	Working Capital ₩1 billion
Support Scale (Total)	₩300 billion	All SMEs Guarantee	₩125 billion
Guarantee Rate	95%	90% (Exporting companies, etc : 95%)	95%
Guarantee Fee Rate	0.1% (Fixed fee rate)	Manufacturing:0.3% cut down (Max 1.0%)	0.3% cut down (Max 0.8%)
Guarantee Limit	Sales Limit 1/2	Accordance with Regulations	Sales Limit 1/2
Other Support	- extension of maturity (same amount)	- extension of maturity (same amount)	- extension of maturity (same amount)

lines for Special Guarantee for Small and Medium-sized Enterprises Damaged by COVID-19' provided preferential support for working capital, extension of full maturity for existing guarantees, preferential treatment for guarantee limit, higher guarantee rate, and deduction of guarantee fee. The details of the special guarantee support provided by the Korea Credit Guarantee Fund are as Table 4.

And the details of the implemented special measures and special disaster guarantee support are shown in the Table 5.

5. Conclusion and Implications

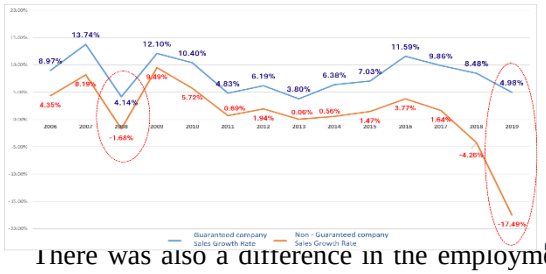
5.1. Summary of Evaluation Results

As for the policy guarantees of the Korea Credit Guarantee Fund related to the COVID-19 pandemic in 2020, a total of 4 special guarantees (a total of 5.1 trillion won), special guarantees for crisis response areas (300 billion won), and special guarantees for bus companies (125 billion won) were implemented. Prompt and full guarantees for small business owners, support guarantees for SME vitality reinforcement programs, and special guarantees for auto parts companies were implemented in 2020. As a result, the total amount of support for special guarantees is 8.9 trillion won, and the number of support companies is about 32,500.

The results of evaluation of growth potential among the effectiveness of the Korea Credit Guarantee Fund for guarantee support companies are as

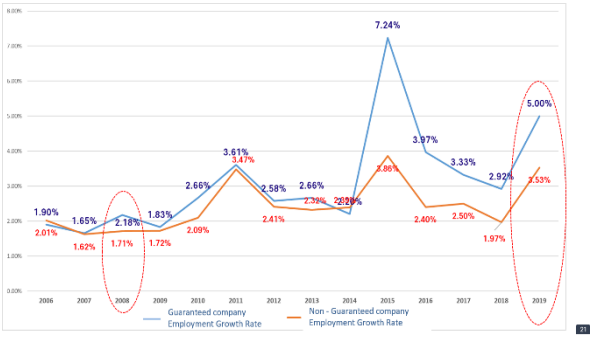
follows2. As a result of evaluating the effectiveness of sales growth (growth potential), during the 2008 global financial crisis, the sales growth rate of the policy guarantee beneficiaries was 4.14%, which was about 5.82% compared to the sales growth rate of non-guaranteed companies (non-beneficiaries) (-1.68%). There is a difference in growth. However, in the COVID-19 crisis, the sales growth rate of the beneficiary companies was 4.98%, which is a very large difference of 22.47% compared to the sales growth rate of non-guaranteed companies (non-recipients) -17.49%.

<Figure 2> Comparison of sales growth rates based on guarantee benefits (Kodit)



There was also a difference in the employment growth rate. Under the 2008 global financial crisis, the employment growth rate of guarantee beneficiaries and non-beneficiaries showed a difference of about 0.46%. In the COVID-19 crisis, the difference in employment growth rate is about 1.47%, indicating that the growth potential (employment growth rate) of companies is differentiated depending on whether or not guarantee support is provided. About 28.0% of the companies suggested the possibility of restructuring of the workforce through the survey, and the number of layoffs was estimated to be about 87,000.

<Figure 3> Comparison of sales growth rates based on guarantee benefits (Kodit)



5.2. Implications

The 2020 COVID-19 Pandemic Policy Guarantee is characterized by rapid and massive government-led support due to the rapid spread and far-reaching impact of the COVID-19 pandemic. This is a rapid increase of 32.6% in one year as the amount of guarantee support through credit guarantee institutions in 2019 increased from a total of 97.3 trillion won to about 129 trillion won in 2020, with an additional 31.7 trillion won. Given the characteristics of the aforementioned COVID-19 crisis, it is expected to have economic impacts such as reduction in consumption and investment, reduction in production and employment, industry reorganization into an untact industry, and deepening polarization between large and small businesses. The government's active role and technological change are required. Future policy guarantee support has the following implications.

First, among the economic crises caused by COVID-19, the crisis response through policy guarantees was relatively appropriate. According to the results of the survey, about 64.8% of the respondents answered that ‘very large damage’ occurred to the question assuming non-guaranteed benefits. As a result of comparing the sales and employment growth rates of guarantee beneficiaries and non-beneficiaries, it can be seen that they had a positive effect on the growth and survival of SMEs. These results suggest that the policy guarantee support policy can be effectively used in situations related to ‘economic crisis’ in the future.

Second, it is necessary to maintain an ‘appropriate’ level of support for ‘necessary’ economic sectors according to the government’s policy direction. As mentioned above, it is necessary to keep the rapid expansion of guarantee policies at an appropriate level in preparation for inflation concerns caused by the expansionary fiscal policy. The policy direction should be maintained in the same direction as the national tasks, such as support by industry according to the Green New Deal policy and fostering of growth industries that will lead the 4th industrial revolution.

Third, policy guarantee support can be effectively used as one of crisis response policies based on the effectiveness of the policy. However, it is necessary to eliminate the possibility of providing policy funds to “marginal companies, which means companies whose operating profit is lower than interest expenses for three consecutive years”. According to the survey results of the Federation of Korean Industries, as of 2020, the proportion of marginal enterprises in Korea was about 18.9%. In order for policy guarantees to secure the direction of government policy and appropriateness for crisis response, it is necessary to build a database that can select marginal companies and have the ability to select them.

[2] Refer to the public institution management information disclosure system (alio.go.kr).

Fourth, it is necessary to prepare for preemptive policy guarantee support by operating the crisis prediction system. While the economic policy goal before the crisis was 'growth and distribution', the goal of economic policy due to COVID-19 is 'survival and health'. While the general liquidity crisis in the 2008 global financial crisis required liquidity supply and ex post stimulus measures, responding to the economic crisis caused by COVID-19 requires strong and preemptive stimulus measures. It is required to prepare for crises that can be predicted in advance and to respond to prevent escalation of crises that have occurred, suggesting that a system for predicting crises in advance is necessary.

Fifth, it is necessary to identify and prepare for possible crises after COVID-19 at the present time. To cope with the COVID-19 economic crisis, governments around the world have implemented very active fiscal policies and liquidity supply through quantitative easing. As a result, the capital market rebounded and the real economy recovered in the short term, but this cannot be said to have completely resolved the future uncertainty brought about by the economic crisis caused by COVID-19. Concerns about the re-spreading of COVID-19 through mutation remain. Unemployment, accumulated inventories, continued stagnation of the real economy, and commodity and real estate inflation suggest that the economic crisis in the post-corona era may be transformed into a completely different economic crisis through inflationary pressure. In order to prepare for a crisis, policy guarantees need to be adjusted to an appropriate level in connection with the nation's 'fiscal policy' and 'monetary policy' while focusing on 'corporate resilience'.

References

BATERDENEGANCHIMEG, Lee Jae Eun, Keiko Kitagawa. (2022). Comparative Analysis of COVID-19 Pandemic Response: Korea, USA, Japan, Germany, and France. *Journal of Safety and Crisis Management*, 12(2), 31-46.

Byun. S. Sik. (2017). An Analysis for the Effect of Fast-Track Program - Focusing on a Specific Credit Guarantee Program around the Global Financial Crisis. *Journal of SME Finance*, 37(4), 31-66.

Choi, Kwan, Hyuk Shawn, Sungho Choi, and Youjung Kang. (2021). COVID-19 Crisis and the Value Relevance of Accounting Information. *Korean Accounting Review*. 46(5): 281-320.

Choi. S. H. (2012). Analysis of the effectiveness of the fast-track program under the global financial crisis, *(Masters dissertation), Seoul National University*. Seoul

Chung, Jae Ho and Jae Pil Park. (2010). A Study on the Effectiveness of Interest Rate of Small and Medium Enterprise Policy Fund. *Academic Society of Global Business Administration*. 1-19

Hong, Tae Hee. (2020). Characteristics and Causes of COVID-19 Pandemic Economic Crisis and Its Prospects. *Koreanisch-Deutsche Gesellschaft Fuer Wirtschaftswissenschaften.* 38(3): 79-99.

Kodit (Korea Credit Guarantee Fund). (2022). Credit Guarantee Performance Analysis and Guarantee Policy Direction in the Post-Corona Era. Korea Credit Guarantee Fund.

Kodit (Korea Credit Guarantee Fund). (2022). Credit Guarantee Performance Analysis and Guarantee Policy Direction in the Post-Corona Era. Korea Credit Guarantee Fund.

Kim, Chang Soo. (2000). A Study on the Relationship between Local Autonomy System and the Effectiveness of the Environmental Policy Implementation: Focusing on the Water Quality Improvement. *Korean Public Administration Review.* 34(4): 257-276.

Kim, H. W. (2005). The Profitability Improving Effects of Korean SME Policy Lending Programs. *KDI Journal of Economic Policy.* 27(2): 45–87.

Kim, Jung Eun. (2015). Analysis on Effect of SBC's SME Finance of Corporation Diagnosis Methods. *(Masters dissertation), Seoul National University.* Seoul

Kim, S. Tae. (2012). The Effectiveness of Fiscal Policy in Korea during the Global Financial Crisis. *KDI Journal of Economic Policy*. 34(4): 27–68.

Kim T.Y, Lee Y.J, Park W.I. (2020). COVID-19 economic crisis, is the end in sight? .*Issue&Analysis*, p1-25.

Lee Kiyoung, (2011). Evaluation and improvement plan of the SME policy finance support system. *Korea Institute of Finance.* p1-2.

Lee, Sang Oak and Yong Woon Kim. (2022). A Study on the Influential Factors on the Performance of Crisis Management Policy: Focusing on the Citizen Perceptions of the Policy Responding to COVID-19 Crisis. Korean Policy Sciences Review. 26(1): 257-280.

Lee, Young Bum. (2006). An Analysis of the Relative Efficiency and the Total Factor Productivity Changes of SMEs in SME Funding Program. *Korean Journal of Public Administration.* 44(4): 199-229.

Nam, Changwoo. (2015). The Effectiveness Analysis of Financial Support Policies for SMEs: Based on Firm's Dynamic Decision Model. *Review of The Korean Finance Association*. 220-283.

Noh, Yong-Hwan and Jaekeun Hong. (2016). Effectiveness of Public Credit Guarantee System and Its Coexistence with Market-based Finance Schemes. *The Journal of Small Business Innovation.* 19(3): 1-16.

Stiglitz, J. and A. Weiss. (1981). Credit Rationing in Markets with Imperfect Information. *American Economic Review.* 71(3): 393－410.

Yoon, Sujae. (2019). A Study for Improving the Policy Outcome Measurements of the Korean Central Government. *Korean Journal of Policy Analysis and Evaluation.* 14-200.

Profile

Jin Hwa Kim (skychild@kodit.co.kr)

He received his M.A. from the University of Seoul, Korea in 2001. He is currently enrolled in a doctoral program in the Department of Public Administration, Chungbuk National University and serving as the team leader in charge of guarantees at the Cheongju Branch of Korea Credit Guarantee Fund(Kodit)

Jae Eun Lee (jeunlee@chungbuk.ac.kr)

He received his B.A., M.A., Ph.D. from Yonsei University, Korea in 2000. He is a Professor of the Department of Public Administration at Chungbuk National University, in which he has taught since 2000. His interesting subject and area of research and education is crsis & emergency management, organizational studies, and policy implementation. He has published 203 articles in journals and written 16 books, including 10 co-author books.