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**SOUTH KOREA'S ECONOMIC REVITALIZATION STRATEGY POST COVID-19 PANDEMIC****Donghun Yoon**

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**ABSTRACT.** The COVID-19 pandemic has caused serious problems in South Korea that led to an economic recession, stunted national growth, a huge gap between the real estate market and the asset market, and job instability in almost all sectors. Like most countries around the world, South Korea has aggressively implemented economic policies to overcome the debilitating effects of the pandemic, actively pursuing policy countermeasures that focused on what it called the Korean New Deal. To measure the effects of the Korean New Deal on the revitalization of the nation, this research paper used a dynamic regression model to analyze its impact on the economy. Our research used panel data on South Korea's resulting economic growth rate and the supplementary budget the government provided to attain it. Our analysis showed that the supplementary budget created by the South Korean government did have an effect on the quarterly economic growth rate compared to that of the previous quarter. However, compared to the previous year's economic growth rate, the government's supplementary budget investment was unable to augment the yearly growth rate. It is our hope that these findings and the analysis of these outcomes will contribute to the formulation and implementation of a more efficient set of economic policies by the South Korean government for overcoming the adverse effects of the COVID-19 pandemic on the nation's economic life and well-being.

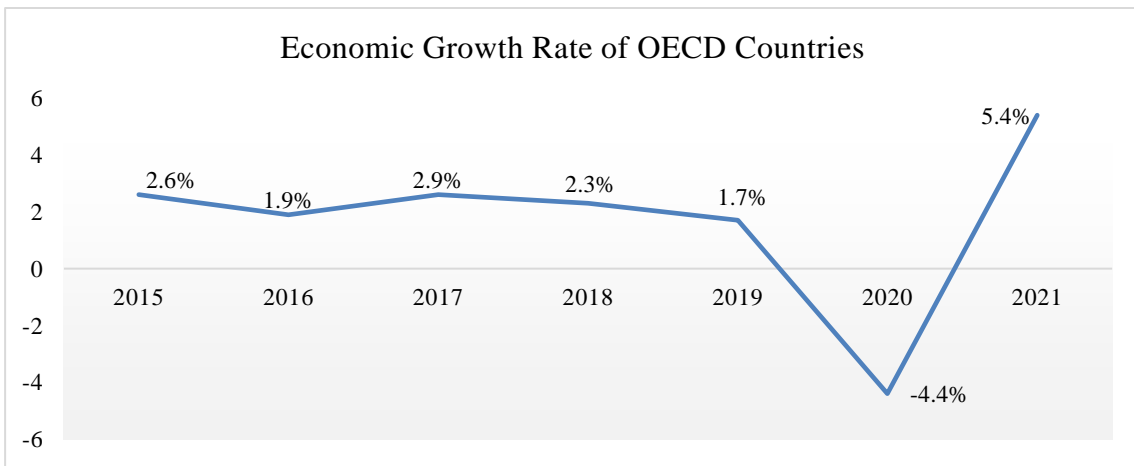
**JEL Classification:** A14, H00, H50

**Keywords:** effects analysis, economic policy, economic revitalization, South Korea, COVID-19 pandemic

**Introduction**

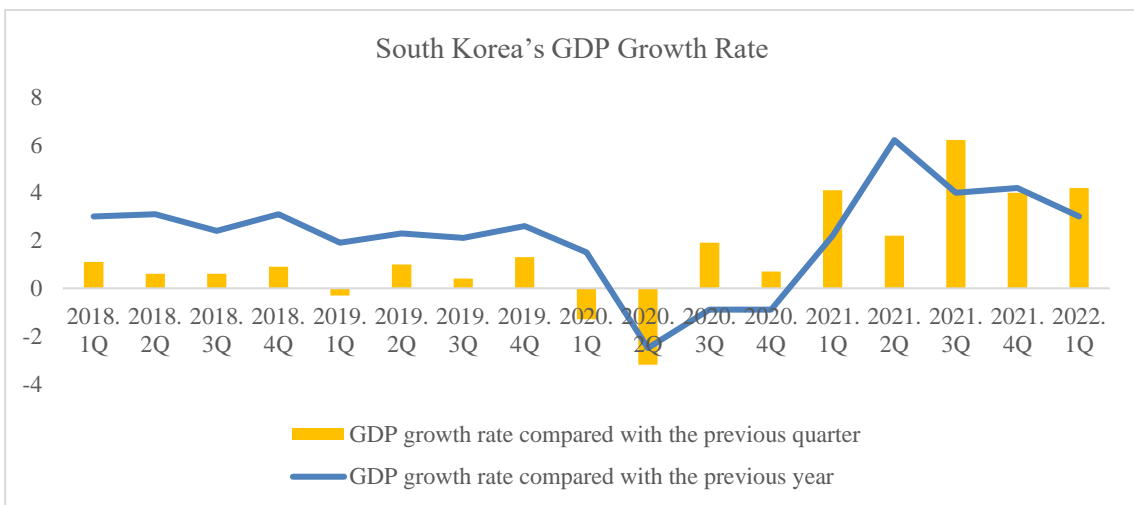
The outbreak of COVID-19 pandemic brought social and economic life to a standstill (Chaudhary et al., 2020) and the rapidity with which it spread across the world left governments with little time to respond (Anderson et al., 2020). COVID-19 greatly affected financial markets, economies and societies worldwide (Liu, 2021) as it evolved from a local health crisis to a pandemic (Zaheer et al., 2022). Due to the COVID-19 pandemic, economies around the world has have faced difficulties and economic growth fell in 2020. The economic downturn during the COVID-19 pandemic has resulted in a significant decline in the stock market prices (Dai et al., 2021) which has placed unprecedented pressure on global financial markets (Liu et

al., 2021). There has been a growing possibility that the current global financial crisis will lead to an even more severe economic recession. For this reason, from March 2020 onwards, major countries around the world have come up with various policies and economic stimulus packages to overcome the debilitating impact of the pandemic. Governments and central banks have been spending huge amounts of money to lower interest rates and implement economic incentives to finance and revitalize their respective markets. It has been suggested that the introduction of stimulus spending just before the economic and financial crisis should be established on a timely, targeted, and temporary basis (Elmendorf and Jason, 2008; Ston and Cox, 2008). In South Korea, a successful K-quarantine program effectively controlled the spread of the COVID-19 pandemic in its early stages, but consumer’s expectations for an economic recovery got so low as to reduce consumer spending. The purpose of this study is to analyze the effectiveness of South Korea’s efforts to revitalize the economy under its Korean New Deal policy, as well as to analyze the economic policy effects of the South Korean government’s supplementary budget spending. For comparison, Graph 1 shows the economic growth rate of the OECD countries. Graph 2 shows South Korea’s GDP growth rate.



Graph 1. Economic growth rate of OECD countries

Source: *Gross domestic product (GDP) of OECD countries (2022), OECD*



Graph 2. South Korea’s GDP growth rate

Source: *National account (2022), Bank of Korea*

## 1. Literature review

With shrinking external demand, boosting domestic demand becomes crucial for maintaining economic growth and promoting employment (Cai et al., 2010). Once established, the broadly neoclassical paradigm became highly dominant, extending its reach from macro- and micro-economic policy to gradually taking over public sector management and ownership issues, the labour market and social policy issues such as health and welfare policy (Goldfinch, 2000). The traditional theory of economic policy requires targets, instruments, an empirical economic model, and a social welfare or criterion function to be specified in order to derive the optimal economic policy (Velthoven, 1990). An important application of national accounts is in the formulation of socio-economic policy (Keuning, 2005). Managing economic crisis will require organisational and regional cooperation, based upon shared and mutually respectful understandings of the causes of, and solutions to, economic turbulence (Aus-Thai Project Team et al., 2002). Total factor productivity (TFP) growth is an important measure of an economy's performance and if measured correctly it can provide valuable guidance on issues related to the assessment of sustainable growth trends (Färe et al., 2002). Cost-benefit analysis and economic impact analysis both provide the ability to assess projects' economic impacts, but through different methodological approaches and perspectives (Joseph et al., 2020). Cost-benefit analysis (CBA) is a methodology in which monetary values are in principle assigned to all the costs and benefits of a project (Hansson, 2019). The pursuit of economic growth spurs ongoing innovation, which enhances people's opportunities and protects a society against future risks (Rose, 2019). The influence of institutions in economic growth has been widely discussed in economic literature (Sumanjeet, 2015). Regardless of theoretical grounds that presumed a positive relationship between government spending and economic growth, the extant research on this nexus is inclusive (Ahuja and Pandit, 2020). On the onset of the year 2020, the unprecedented outbreak of novel coronavirus, initially as a human health epidemic and later as a global pandemic, has wobbled the economies of affected countries across the globe. The consequential unexpected occurrences of supply- and demand-side shocks forced the economies to trim down their growth prospects (Mishra and Mishra, 2020). As the world struggles to deal with the COVID-19 pandemic, the stark inequalities in our societies have been laid bare, and the interplay between organizations and societies has also become evident yet again (Bapuji et al., 2020). The coronavirus has taken the West by surprise. It has called into question basic assumptions about globalisation, how our society is organised, how safe we actually are and to what extent we control the world around us (Czarnocki and Larue, 2020). The COVID-19 pandemic offers an opportunity to think more deeply about who and what we value in society, with value determined not on conditions set by capital but instead on achieving meaning in life (Tyner and Rice, 2020). No crisis in recent history has shaken the world the way coronavirus has (Bapuji et al., 2020). Undoubtedly, businesses will not be the same post the COVID-19 pandemic era, as it brings with itself both a threat and a cautious optimism as far as market offerings are concerned (Kaur and Kaur, 2020). The Covid-19 crisis hit the world at a time when neoliberal politics had systematically eroded social solidarity with their emphasis on unrestrained individualism (Pentini and Lorenz, 2020). The Corona crisis questions basic understandings of the relation between people, communities and spaces. It influences how society uses space and focuses our perspective on the importance of critical infrastructures, public services, and community networks (Lamker et al., 2020). The Covid-19 pandemic might have a lasting impact on the way we deal with our built environment and open spaces (Gill et al., 2020). The COVID-19 pandemic also provides an unsettling window onto distinctions between 'high' and 'low' tech and 'skilled' and 'unskilled' labor, and the problems with seeing the world in terms of 'technological fixes' (Mody, 2020). The term 'crisis' is

omnipresent. The current corona virus pandemic is perceived as the most recent example (Brinks and Ibert, 2020).

## **2. Korean new deal for COVID-19 pandemic**

The Korean New Deal is a national development strategy designed to overcome the crisis and lead the global economy for the post-COVID-19 era in the face of the worst recession and job shock. Just as the United States strongly pushed for the New Deal policy to overcome the Great Depression in the 1930s, the goal is to effectively respond to the post-COVID-19 and stay ahead of the global trend through the Korean New Deal (Policy Wiki, 2020). The main content of the Korean New Deal are as follows. It is going to expand digital super-difference based on the information and communications technology (ICT) such as world's best e-government infrastructure and services through the Digital New Deal. The Digital New Deal is planning to invest 53 billion dollars (national expenditure: 40 billion dollars) in total project cost and create 90.3 million jobs. Through the Green New Deal, the Korean New Deal aims for the Net-Zero by accelerating its transition to a green economy such as eco-friendly and low carbon, and converts its economic foundation to low carbon and eco-friendly. The Green New Deal aims to invest 66 billion dollars (national expenditure: 39 billion dollars) in total project costs and create 65.9 million jobs. By strengthening the Safety Net, the economic players will strengthen their resilience by easing unemployment anxiety and income gaps, and supporting adaptation in the era of uncertainty caused by the reorganization of the economic structure. The Safety Net aims to invest 25 billion dollars (national expenditure: 24 billion dollars) in total project costs and create 33.9 million jobs. The large-scale private investment will be induced and promoted by both fiscal and institutional improvements by 2025 (National Report Meeting for Korean New Deal, 2020).

## **3. Current status of economic policies in South Korea**

To cope with the COVID-19 pandemic crisis, governments and central banks around the world are spending huge amounts of money to lower interest rates and provide funds to the market, but there is a possibility of an economic crisis that will inevitably lead to long-term low growth. The South Korean government is actively carrying out economic policies in response to the COVID-19 pandemic crisis. The South Korean government announced a total of 81.4 billion dollars of economic support measures in April 2020, and decided to create 36.1 billion dollars of seven major industrial stabilization funds, 9 billion dollars in employment stabilization measures and 31.6 billion dollars in public welfare financial stability. Employment stabilization measures announced that 550,000 jobs would be created for young people and unemployed people, and provided to the public. As of January 2021, the South Korean government is pursuing the following policies. South Korea's the COVID-19 pandemic emergency economic support policy first has various cash subsidies and allowances paid by individual households, such as emergency disaster subsidies, and emergency employment safety subsidies. Secondly, there are policies related to job security, such as creating new jobs, providing employment stabilization funds to companies, and employment support measures. Third, there are financial support policies such as various loans. Fourth is other industrial support measures, including deregulation system improvement, tax administration support, and marketing support. Fifth, there are other measures to support people's livelihoods, such as discounts on insurance premiums and electricity bills. Sixth, there are special disaster area measures (Policy Wiki, 2021). In 2020, the South Korean government set aside a supplementary budget of 1st supplementary budget (10.6 billion dollars), 2nd supplementary budget (11.0

billion dollars), and 3rd supplementary budget (31.8 billion dollars) for damage measures, financial stability, job security, and economic support. Including the three-time supplementary budget, the South Korean government is working on a total of 250.2 billion dollars of policy packages to overcome the COVID-19 pandemic. In September 2020, the South Korean government announced the fourth supplementary budget (7 billion dollars) at the 8th emergency economic meeting to cope with the COVID-19 pandemic spread. The COVID-19 pandemic's quarantine will be strengthened, and it will be used to provide damage-tailored support to small business owners and self-employed people affected by the government's business restrictions and to provide job security and emergency care (Policy Wiki, 2020).

#### 4. Research design and methodology

In the year 2020, the South Korean government implemented four supplementary budgets – the first time in 59 years – to revitalize the economy in the face of the COVID-19 pandemic. In this study, an empirical analysis is conducted on the correlation between the South Korea's economic growth and the South Korean government's fourth supplementary budget. In this study, the South Korea's economic growth rate was calculated quarterly in 2020 and replaced with the average growth rate, which was used as an alternative variable for economic growth. In this study, we reviewed economic growth to analyze whether the South Korean government's economic policies for revitalizing the economy and responding to the COVID-19 pandemic are effective. We used the economic growth rate because economic growth can be calculated by current prices and because of the large absolute value difference, it has the advantage of statistically increasing explanatory power. In this research, we set the fourth round of supplementary budget as explanatory variables and South Korea's economic growth rate as dependent variables to analyze the South Korean government's economic policy for the economic revitalization and the COVID-19 pandemic response. The equation for regression analysis is as follows:

$$\ln G_t = \alpha + \beta_1 \ln S^1 + \beta_2 \ln S^2 + \beta_3 \ln S^3 + \beta_4 \ln S^4 + \varepsilon$$

$G_t$  = South Korea's economic growth rate

$S^1$  = South Korean government's first supplementary budget investment

$S^2$  = South Korean government's second supplementary budget investment

$S^3$  = South Korean government's third supplementary budget investment

$S^4$  = South Korean government's fourth first supplementary budget investment

In this study, we also set per capita gross domestic product (GDP) and the fourth supplementary budget as explanatory variables and the economic growth rate as dependent variables to analyze the impact of per capita gross domestic product (GDP) on the South Korean government's economic policies and economic growth. The equation for regression analysis is as follows:

$$\ln G_t = \alpha + \beta_1 \theta + \beta_2 \ln S^1 + \beta_3 \ln S^2 + \beta_4 \ln S^3 + \beta_5 \ln S^4 + \varepsilon$$

$G_t$  = South Korea's economic growth rate

$S^1$  = South Korean government's first supplementary budget investment

$S^2$  = South Korean government's second supplementary budget investment

$S^3$  = South Korean government's third supplementary budget investment

$S^4$  = South Korean government's fourth first supplementary budget investment

The formula for gross domestic product (GDP) growth rate is as follows:

$$\text{Quarterly GDP growth rate (\%)} = \frac{\text{This quarter GDP} - \text{Last quarter GDP}}{\text{Last quarter GDP}} \times 100$$

$$\text{Annual GDP growth rate (\%)} = \frac{\text{This year GDP} - \text{Last year GDP}}{\text{Last year GDP}} \times 100$$

## 5. Research analysis and results

Implementation of the South Korean government's economic policy to revitalize the economy and respond to the COVID-19 pandemic began in the year 2020. This study used panel data to analyze on a quarterly basis the impact of South Korea's supplementary budget on the national economic growth rate. The data we used for our research analysis are official data (2018-2022.3) of the Bank of Korea, the Woori Finance Research Institute, and the Ministry of Economy and Finance. It is a very reliable data for this type of analysis. In this study, we analyzed the period (2020-2022.3) during which active economic stimulus measures were promoted in South Korea to respond to the COVID-19 pandemic. We conducted a regression analysis according to the model proposed by the research design and the methodology to assess the impact on economic growth rate for the South Korean government's first supplementary budget investment, the South Korean government's second supplementary budget investment, the South Korean government's third supplementary budget investment, and the South Korean government's fourth supplementary budget investment. The descriptive statistics on regression model of economic growth rate is described in Table 1.

Table 1. Descriptive statistics on regression model of economic growth rate

Variable	Mean	Standard deviation	Minimum value	Maximum value
GDP growth rate compared with the previous year	2.194	2.065	-2.500	6.200
GDP growth rate compared with the previous quarter	1.435	2.242	-3.200	6.200
Supplementary budget investment (trillion won)	21.92	18.74	3.80	62.00

Source: *own data*

We conducted a regression analysis according to the research model to assess the impact on quarterly economic growth for the South Korean government's first supplementary budget investment, the South Korean government's second supplementary budget investment, the South Korean government's third supplementary budget investment, and the South Korean government's fourth supplementary budget investment. The analysis result of regression model for GDP growth rate compared with the previous quarter is described in Table 2. The analysis result data of regression model for GDP growth rate compared with the previous quarter is described in Graph 3. According to the analysis of the South Korea's quarterly economic

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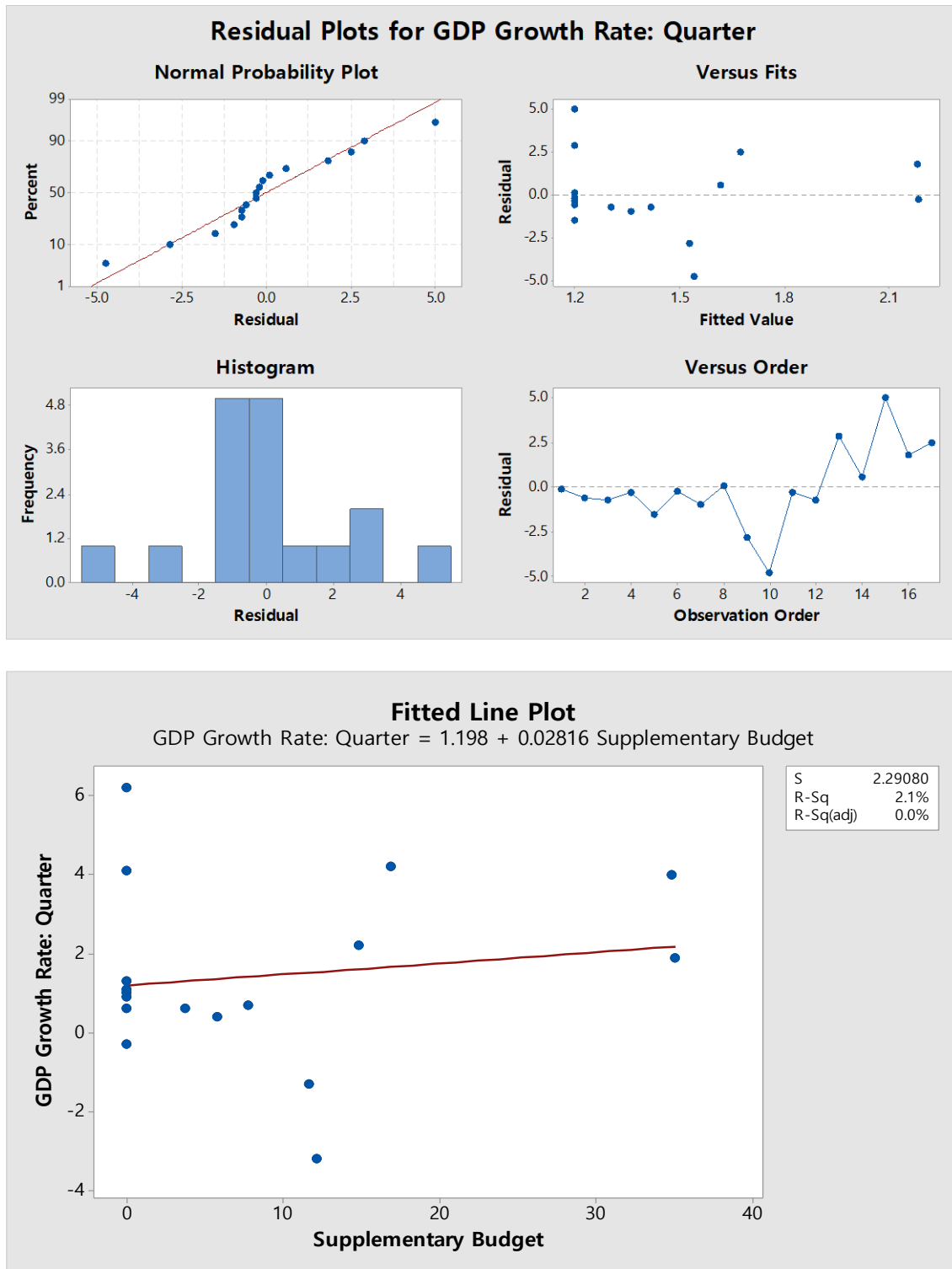
growth regression model, the South Korean government's supplementary budget correlates the economic growth rate, which is a dependent variable, and supports the theoretical analysis and prediction of this study. The correlation coefficient is 1.000 with a positive correlation and the p-value is 0.577, so the correlation for the South Korean government's the economic growth rate compared with the previous quarter is significant. The South Korean government's first supplementary budget investment, the South Korean government's second supplementary budget investment, the South Korean government's third supplementary budget investment, and the South Korean government's fourth supplementary budget investment are coefficient = 0.0282, T-Value = 0.57, P-Value = 0.577, affecting the economic growth compared to the previous quarter. These results are consistent with theoretical estimates, and statistically the South Korean government's first supplementary budget investment, the South Korean government's second supplementary budget investment, the South Korean government's third supplementary budget investment, and the South Korean government's fourth supplementary budget investment are all significant. It shows that the South Korean government's supplementary budget investment is effective in the economic growth rate compared to the previous quarter and actually has a positive impact on the economic growth rate. The regression equation is as follow:

$$GDP\ Growth\ Rate:\ Quarter = 1.198 + 0.02816\ Supplementary\ Budget$$

Table 2. Analysis result of regression model for GDP growth rate compared with the previous quarter

Analysis of Variance					
Source	DF	SS	MS	F	P
Regression	1	1.7025	1.70252	0.32	0.577
Error	15	78.7163	5.24775		
Total	16	80.4188			
Coefficients					
Term	Coef	SE Coef	T-Value	P-Value	VIF
Constant	1.198	0.694	1.73	0.105	
Supplementary Budget	0.0282	0.0494	0.57	0.577	1.00

Source: *own data*



Graph 3. Analysis result data of regression model for GDP growth rate compared with the previous quarter

Source: *own data*

We conducted a regression analysis according to the research model to assess the impact on year economic growth for the South Korean government’s first supplementary budget investment, the South Korean government’s second supplementary budget investment, the



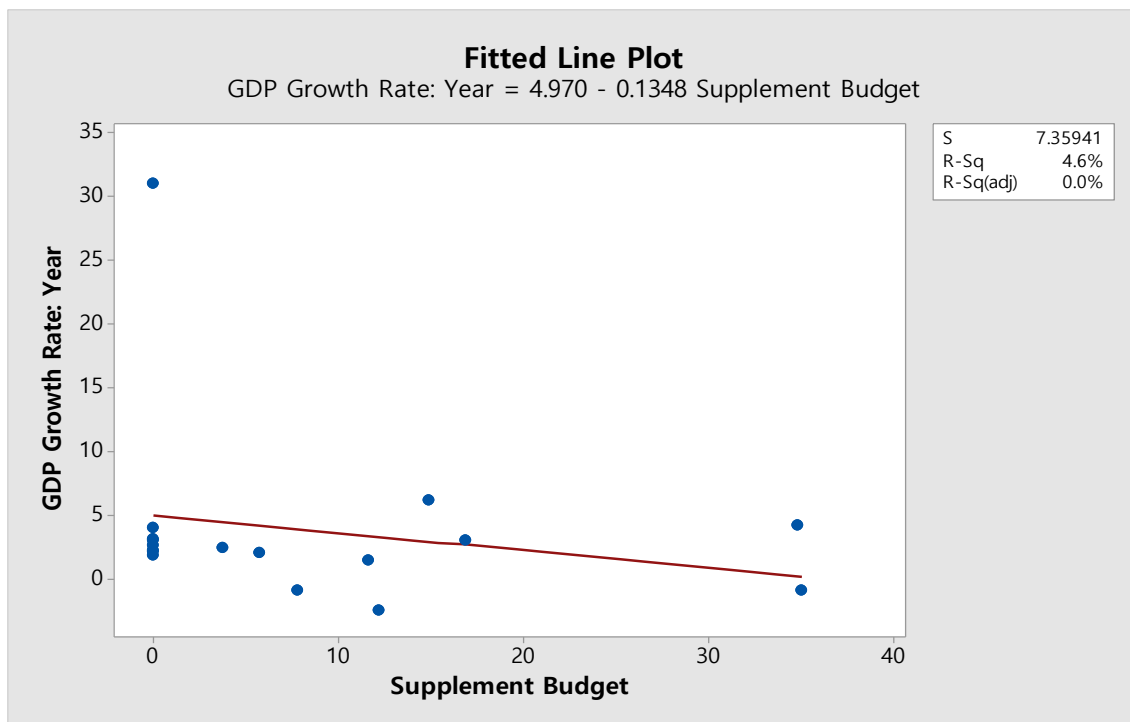
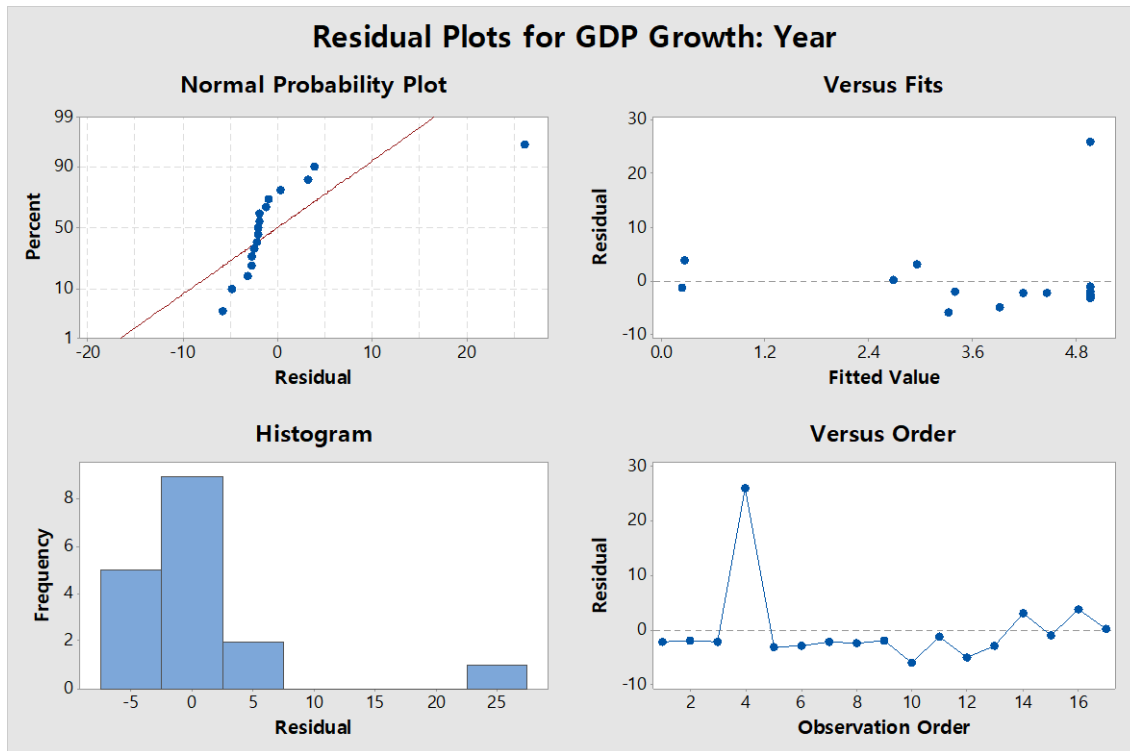
South Korean government's third supplementary budget investment, and the South Korean government's fourth supplementary budget investment. The analysis result of regression model for GDP growth rate compared with the previous year is described in Table 3. The analysis result data of regression model for GDP growth rate compared with the previous year is described in Graph 4. According to the analysis of the South Korea's year economic growth regression model, the South Korean government's supplementary budget correlates the economic growth rate, which is a dependent variable. It is not significant because it is a negative correlation with the economic growth rate and the T-value is low. The correlation coefficient is -0.214, with a negative correlation and the p-value of 0.409, so the correlation for the South Korean government's supplementary budget investment and the economic growth rate compared to the previous year is not significant. The South Korean government's first supplementary budget investment, the South Korean government's second supplementary budget investment, the South Korean government's third supplementary budget investment, and the South Korean government's fourth supplementary budget investment are coefficient = -0.135, T-Value = -0.85, P-Value = 0.409. It is not affecting the economic growth compared to the year quarter. These results are not consistent with theoretical estimates, and statistically the South Korean government's first supplementary budget investment, the South Korean government's second supplementary budget investment, the South Korean government's third supplementary budget investment, and the South Korean government's fourth supplementary budget investment are not all significant. It shows that the South Korean government's supplementary budget investment is effective in the economic growth rate compared to the previous quarter. However, it can be interpreted that the economic growth rate has decreased compared to the previous year when the COVID-19 pandemic did not occur. The drop in the economic growth rate from the previous year can be seen as an economic situation that occurs not only in South Korea but also in all countries around the world despite implementing stimulus package. The regression equation is as follow:

$$GDP\ Growth\ Rate:Year = 4.970 - 0.1348\ Supplementary\ Budget$$

Table 3. Analysis result of regression model for GDP growth rate compared with the previous year

Analysis of Variance					
Source	DF	SS	MS	F	P
Regression	1	39.004	39.0041	0.72	0.409
Error	15	812.415	54.1610		
Total	16	851.419			
Coefficients					
Term	Coef	SE Coef	T-Value	P-Value	VIF
Constant	4.97	2.23	2.23	0.042	
Supplementary Budget	-0.135	0.159	-0.85	0.409	1.00

Source: *own data*



Graph 4. Analysis result data of regression model for GDP growth rate compared with the previous year

Source: *own data*

Based on our analysis of South Korea’s economic growth rate of the succeeding quarters compared to that of the previous quarters, the government’s supplementary budget investment indeed had an effect on economic growth. It shows that the South Korean government’s supplementary budget investment is effective in increasing the economic growth rate compared

to the previous quarter's, and is actually useful and helpful in enhancing the economic growth rate. On the other hand, our analysis of the succeeding year's economic growth rate compared to that of the previous year's showed that the South Korean government's supplementary budget investment was not effective for enhancing the succeeding year's economic growth rate compared to the previous year's. It means that although the South Korean government's supplementary budget investment had a policy effect in the special situation of COVID-19 pandemic, this effect was not as effective compared to the general situation in which the COVID-19 pandemic had not yet occurred.

## **6. Research discussion and implications**

South Korea's economy has rapidly stagnated in the service sector due to the COVID-19 pandemic, and concerns are growing over a slowdown in overall economic growth as the possibility of a global economic recession increases. The COVID-19 pandemic could be a negative impact of supply and demand declines in the real economy, leading to an economic recession. The labor supply decreased due to the COVID-19 pandemic, and business closures and social distancing served as factors limiting labor supply. There are also concerns about a drop in exports due to concerns over the COVID-19 pandemic infection and a drop in consumption and investment due to the expansion of uncertainties in the economy. Recently, South Korea has even reached a national emergency, especially as the gap between the real economy and the asset market continues to grow. If the real economy has a negative impact on the financial market, economic damage could intensify and expand. When companies, self-employed people, and households go bankrupt due to the economic recession, supply and demand problems arise. Also, the financial system crisis and the negative impact on the economy will increase. If the global investment slump continues, South Korea could have a greater negative economic impact than other countries. The employment in the service sector, which has many face-to-face contacts, has been hit hard, and if it is prolonged, the employment in the manufacturing sector is also expected to be a big shock. The ripple effect of economic policies in response to the spread of COVID-19 pandemic is unclear due to the constraints on production activities of the service industry related to dense activities. Economic policies need to consider continuous expansion through monitoring of economic conditions in consideration of the possibility of reducing the effectiveness of policies. Recently, it can be seen that fiscal policy plays a key role in policy responses in major countries. Strong fiscal spending needs to be expanded to cope with negative economic growth following the COVID-19 pandemic. It is necessary to minimize the destruction of human and physical capital by expanding fiscal spending. Preparations are needed for large-scale public investments to recover the economy for the post-Corona. South Korea needs an efficient economic policy to get out of the economic downturn. If the economic downturn is prolonged, the financial burden will increase with unemployment benefits, employment support funds, and emergency disaster funds. In preparation for a sharp drop in tax revenues and a surge in spending due to the prolonged COVID-19 pandemic, it is necessary to increase the government's fiscal sustainability through effective tax revenue and spending restructuring. At a time when the economic growth rate is sharply lowered, the increase in the national debt ratio is overwhelmingly greater than that caused by increased fiscal spending. Therefore, preemptive and active responses are needed to the economic recession by expanding fiscal spending. The Korean New Deal, which the South Korean government has put forward on the COVID-19 pandemic, is a winning move for a successful economic stimulus package. The fiscal spending policy is to increase the amount of money in the market by increasing the government's spending. The government's direct increase in spending has the advantage of boosting the economy in a short period. Especially

in the special circumstances of COVID-19 pandemic, it can be seen as a very efficient economic policy. The controversy arose in South Korea over the introduction of the supplementary budget as there was a conflict between those who argued for fiscal expansion in relation to the appropriateness of the supplementary budget and those who needed to review fiscal soundness. The global response to the COVID-19 pandemic and the damage situation illustrate the importance of fiscal soundness. It is because the medical system is collapsing due to the failure to cope with the COVID-19 pandemic amid a significant reduction in health and medical budgets in countries with worsening fiscal soundness. In terms of fiscal policy, it is necessary to ensure clarity of the financial investment target, the appropriateness of size of expenditure, maximizing effectiveness, and the timeliness. Fundamentally, to prevent a long-term recession, a market-oriented crisis-overcoming policy is urgently needed rather than a distribution-oriented reform policy. It says that bold support for the new growth engine industry is needed due to the policy stance that puts priority on economic growth rather than financial distribution. In order to prevent the loss of growth potential, the survival strategy of private and institutional sectors is needed based on industrial restructuring and strengthening competitiveness. South Korea has established a Korean New Deal policy and is actively pursuing the economic growth of South Korea. South Korea is pushing for an aggressive fiscal policy to stabilize people's lives, including the economic shock caused by the COVID-19 pandemic outbreak and the economic downturn. It is actually helping stabilize the economy and stabilize people's lives, and economic policy effects are also emerging.

## Conclusion

The world economy has recently experienced great difficulty due to economic downturns and growth declines owing to the COVID-19 pandemic. It is a major factor that threatens the well-being of mankind and degrades the quality of life and individual happiness. As the COVID-19 pandemic is an economic and social emergency of a global nature, national economic intervention is essential for economic stabilization and for protecting the people's welfare. Countries all over the world have been implementing active economic stimulus packages to cope with the pandemic. In this paper, we discussed and presented the Korean New Deal policy and economic policy that have actively been undertaken in response to the COVID-19 pandemic. We studied and analyzed South Korea's economic policy as a way to contribute to and speed up the nation's economic revitalization. The purpose of this study is to analyze the effectiveness of South Korea's economic policies in revitalizing the economy. Making economic growth as the subject of our research, we conducted a dynamic regression model analysis for South Korea's economic growth as well as for the South Korean government's supplementary budget to analyze the effectiveness of its economic policies in response to the COVID-19 pandemic. The results of our study indicated that the South Korean government's supplementary budget investment is effective in spurring the quarterly economic growth rate during the pandemic; still, South Korea's economic growth rate fell from the previous year's level when the COVID-19 pandemic had not yet occurred. This phenomenon can be seen as an economic situation common to all countries around the world that, like South Korea, have implemented an economic stimulus package of their own. A limitation of this study is that a longer-term analysis is evidently needed to analyze the effectiveness of economic policies in response to a major health crisis like the COVID-19 pandemic. Of course, the Korean New Deal policy and the South Korean government's supplementary budget investment during the COVID-19 pandemic were put into place as emergency economic stimulus packages to prevent what could have become a more serious economic downturn and decline in national growth. In the long term, studies like this definitely can be expected to yield more accurate research results

that can provide more powerful lessons and insights for economic policymaking. We trust that this study has been able to make at least a useful academic contribution in that respect.

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**Appendix**

***Economic policy research for economic revitalization and COVID-19 Pandemic***

Financial policies of Keynesians are mainly through government purchases, government spending through the issuance of government bonds, tax cuts and economic policies. When the economy is in a recession, the government implements fiscal policies to increase government purchases, invest in public projects through the issuance of government bonds, and to expand tax cuts. When the economy is on a recovery track, it cuts inflationary pressure by turning into a tight fiscal policy of reducing government spending and raising tax rates. At this time, the automatic stabilizer is activated, which automatically suppresses overheating of the economy due to a decrease in unemployment allowance spending and increased revenue, resulting in a decrease in fiscal deficits. In this study, we analyze the economic policy effects of the South Korean government focusing on the Korean New Deal to overcome the economic downturn caused by the COVID-19 pandemic. In 2020, the South Korean government implemented a supplementary budget for four rounds of financial policy to support the economy. Implementing these expansionary fiscal policies can expect economic policy effects in response to the COVID-19 pandemic through IS-LM and AD-AS in the Keynesian model. In Figure 1 (a), the first economy is  $E$ , the income is  $Y$ , the price level is  $P$ , the interest rate is  $r$ , the currency is  $M$ , and the government expenditure is  $G$ . When government spending increases to  $G_1$ ,  $IS$  curve shifts from  $IS(G)$  to  $IS_1(G_1)$ . Without a change in price levels and interest rates, income increases to  $Y_3$ . As income increases, money demand increases, interest rates rise, and investment spending decreases. The new equilibrium point is  $E_2$ , the income is  $Y_2$ , and the interest rate is  $r_2$ . It is called crowding-out effect that the expansionary fiscal policy leads to a decrease in investment through a rise in interest rates. When crowding-out effect occurs, the total demand increases to  $Y_2$  and the price level rises due to excess demand as much as  $YY_2$ . This process is reduced to income  $Y_1$  in Figure 1 (b), and the price level rises to  $P_1$ , which moves the economy to  $E_1$ . Thus, the question of the existence and extent of the crowding-out effect plays an important role in assessing the effectiveness of fiscal policy and the role of government. The fiscal policy and crowding-out effect is described in Figure 1.

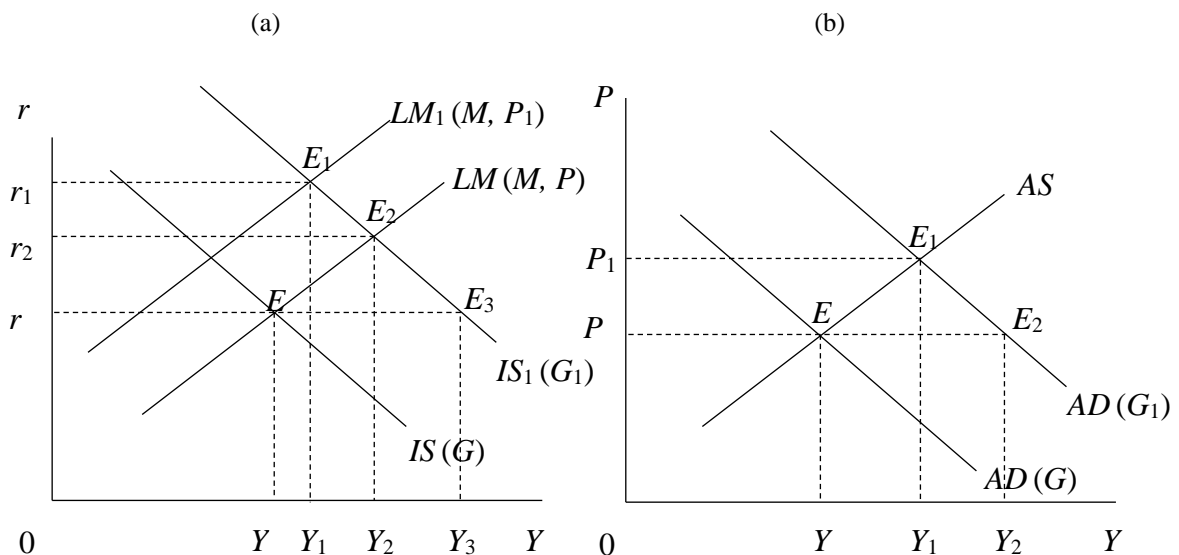


Figure 1. Fiscal policy and crowding-out effect

Source: Spencer, R. W. & Yohe, W. P. (1970). *The crowding out of private expenditures by fiscal actions*, Federal Reserve Bank of St. Louis Review, October, 12-24.

In the government spending model, government spending, which is covered by income taxes, affects private production when it comes to investment government spending. Consumable government spending would affect private utility. Consumable government spending can reduce growth, and investment government spending, when its size is the same as the government's productivity, economic growth becomes extreme and bigger, rather reduces growth. It means that increasing the proportion of investment government spending can increase the growth rate. If the proportion of government spending is greater than the current normal level, it will lead to a drop in economic growth. If the proportion of government spending in gross national product (GNP) gradually increases from 0, the growth rate will grow bigger and then become the extreme at a certain point. It could see that even if the proportion of government spending increases next time, the growth rate may be reduced due to the crowding-out effect (Barro 1990). The government spending and the growth rate is described in Figure 2.

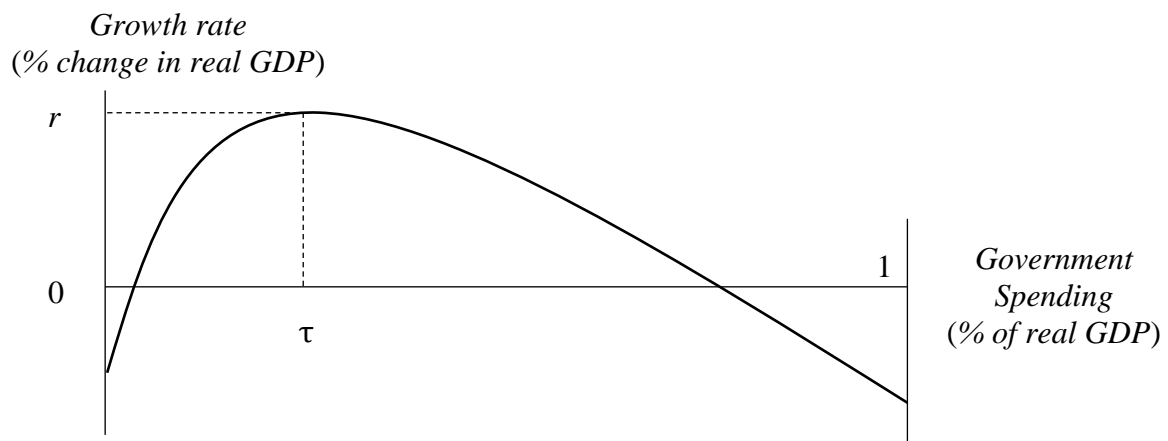


Figure 2. Government spending and the growth rate

Source: Barro, R. J. (1990). *Government spending in a simple model of endogeneous growth. Journal of Political Economy*, 98(S5), 103-125.