

Analysis Driving Factors of Economic Growth During Covid-19 Pandemic: Indonesian Experiences

*Determinants of
Economic Growth
During Pandemic*

Jan Horas Veryady Purba

Institut Bisnis dan Informatika Kesatuan, Bogor, Indonesia

Corresponding Author: janpurba@ibik.ac.id

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ABSTRACT

Pandemic Covid-19 impact on health and economic aspects. These two aspects are trade-offs with each other, so handling the health aspect also pays attention to aspects of economic growth, so that Indonesia's economic performance during the Covid-19 pandemic is well preserved. The objectives of this study were to analyze: (1) the effect of the Covid-19 pandemic and relaxation factors on public consumption, government spending, investment, and net exports; (2) the effect of public consumption, government spending, investment and net exports on Indonesia's economic growth; and (3) the factors that drive economic growth during the Covid-19 pandemic in Indonesia. The analytical method used is ordinary least square, with multiple regression. The data used are secondary data, quarterly 2018-2020 quarter. The findings of this study indicate that the Covid-19 pandemic has a negative and significant effect on public consumption, investment, exports, and imports. The relaxation factor has a positive effect on public consumption, government spending, and net exports, but has not succeeded in creating positive investment growth. Government policies seek to strengthen people's purchasing power and strengthen the production sector. This has an impact on increasing public consumption and is a dominant factor in influencing economic growth during a pandemic. The Covid-19 pandemic affected a contraction of economic growth by 2,07% and also decreased per capita income from 4.192,7 US \$ (2019) to 3.911,7 US \$. The handling of Covid-19 managed to overcome the worse potential (-4,58%) and kept the per capita income from falling to 3.774,4 US \$.

Keywords: Covid-19, economic growth, Keynesian formula, people's purchasing power

ABSTRAK

Pandemi Covid-19 berdampak pada aspek kesehatan dan ekonomi. Kedua aspek ini merupakan trade-off satu sama lain, sehingga penanganan aspek kesehatan juga memperhatikan aspek pertumbuhan ekonomi, agar kinerja ekonomi Indonesia di masa pandemi Covid-19 tetap terjaga dengan baik. Penelitian ini bertujuan untuk menganalisis: (1) pengaruh pandemi Covid-19 dan faktor relaksasi terhadap konsumsi masyarakat, pengeluaran pemerintah, investasi, dan ekspor neto; (2) pengaruh konsumsi masyarakat, pengeluaran pemerintah, investasi dan ekspor neto terhadap pertumbuhan ekonomi Indonesia; dan (3) faktor pendorong pertumbuhan ekonomi selama pandemi Covid-19 di Indonesia. Metode analisis yang digunakan adalah kuadrat terkecil biasa, dengan regresi berganda. Data yang digunakan adalah data sekunder triwulanan 2018-2020. Temuan penelitian ini menunjukkan bahwa pandemi Covid-19 berpengaruh negatif dan signifikan terhadap konsumsi masyarakat, investasi, ekspor, dan impor. Faktor relaksasi berpengaruh positif terhadap konsumsi masyarakat, pengeluaran pemerintah, dan ekspor neto, namun belum berhasil menciptakan pertumbuhan investasi yang positif. Kebijakan pemerintah berupaya memperkuat daya beli masyarakat dan memperkuat sektor produksi. Hal ini berdampak pada peningkatan konsumsi masyarakat dan menjadi faktor dominan dalam mempengaruhi pertumbuhan ekonomi di masa pandemi. Pandemi Covid-19 berdampak pada kontraksi pertumbuhan ekonomi sebesar 2,07% dan juga menurunkan pendapatan per kapita dari 4.192,7 US\$ (2019) menjadi 3.911,7 US\$.

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Penanganan Covid-19 berhasil mengatasi potensi yang lebih buruk (-4,58%) dan menjaga pendapatan perkapita agar tidak turun menjadi 3.774,4 US\$.

Kata Kunci: Covid-19, pertumbuhan ekonomi, rumus Keynesian, daya beli masyarakat

INTRODUCTION

The world is experiencing tremendous pressure, both in health and economy, caused by the outbreak that was first discovered in Hubei, China on December 31, 2019. ([Sohrabi et al. 2020](#); [Xu et al. 2020](#)). Microbiologists identified the severe acute respiratory disease on January 7, 2020, and named it *Severe Acute Respiratory Syndrome Coronavirus-2* (SARS-CoV-2) ([National Institutes of Health \(NIH\), 2020](#)). This new Corona virus was originally named 2019-nCoV, then WHO declared this epidemic terminology as *Corona Virus Disease 2019* (Covid-19) ([Lai et al. 2020](#)). This virus is associated with SARS which emerged 18 years ago, in China's Guangdong Province on November 16, 2002 ([Feng et al., 2009](#)), and 96% identical to SARS-CoV-2 at the genome level with the bat coronavirus ([Zhou et al., 2020](#)). This new strain caused the Covid-19 pandemic (WHO, 2021a).

Covid-19 has had a much worse impact than SARS, where the SARS pandemic did not last long, where the virus infection curve had sloped down in the 7th month (June 2003). This virus has spread in 29 countries, while Covid-19 has spread to 237 countries. Total world infected 8,422 cases with a case fatality rate (CFR) of 11% ([Chan-Yeung and Xu, 2003](#)), and since 2004, there have been no cases of SARS-CoV1 worldwide ([UK National Health Service, 2004](#)). This virus is zoonotic or transmitted from animals to humans, and is predicted to reappear in the future. The prediction was proven today. ([Morens and Fauci, 2020](#)).

As much as 92% of SARS spread in China, 3% in Singapore and 0.7% in Vietnam. Experience in handling the SARS pandemic of the three countries has played a major role in dealing with Covid-19, and has succeeded in carrying out a rapid economic recovery. Confirmed cases of Covid-19 as of April 17, 2021 have reached 138.688.383 people, with a total death of 2.978.935 ([WHO, 2021b](#)). Globally, confirmed cases are still increasing (not sloping) and the increase in daily cases indicates an increase in the second wave, both in the Americas, Europe, Southeast Asia, Africa, the West Pacific, and even a third wave appeared in the East Mediterranean and West Pacific. ([WHO, 2021b](#)).

This rapid and high development of distribution is reflected in the high R0 reproduction rate, which is 2,24 to 3,58 (Rothan & Byrareddy, 2021), 1 person can infect nearly 4 people. When compared to the history of the global pandemic, the Spanish H1N1 flu (1918-1920) had an R0 level of 1,80 ([Biggerstaff et al. 2014](#)). This virus is very deadly, with a high fatality rate ranging from 4% -10%, and killed 62 million people, or 3,4% of the world's population at that time. ([Murray et al. 2006](#)).

To control the spread of the pandemic, the government is implementing lockdowns, travel restrictions and quarantine, in some countries imposing curfews, postponing and canceling events, and closing facilities. ([Theis, 2020](#); [Wang and Wang, 2020](#)). Concerns have risen from supply side issues to the decline of manufacturing businesses in the services sector ([Financial Times, 2020](#)). The global pandemic caused the greatest recession in history, where more than a third of the global population is currently experiencing lockdown ([Kaplan, Frias, and McFall-Johnsen, 2020](#)).

This implementation has a serious impact on global economic growth. Problems include various aspects of economic growth, not only about the growth of aggregate output, but also about the fundamental transformation of the economy, ranging from sectoral structure, to the demographic and geographic composition, and perhaps more importantly, to the entire social order and its institutions ([Deane and Kuznets, 1967](#)). The study of economic growth is one of the most important issues and concerns of

economists, to measure the economic performance of a country during the Covid-19 pandemic and predictions of post-Covid-19 economic recovery.

In 2021, the world is still facing a problem of uncertainty, when will Covid-19 end. Since February 2021, confirmed cases have shown a downward trend, but are still high, as well as concerns over the emergence of a new variant of the British Corona Virus B117 which is 50% more contagious than the original strain, and has also spread in Indonesia, as well as the new variant B1525 which was brought from Malaysia. The discovery of a vaccine gives hope for the formation of herd immunity so that the relaxation and economic recovery phases can run well. The success of this medical science allows for prevention of the disease (Purba *et al.*, 2019).

In terms of economic growth, the Organization for Economic Cooperation and Development (OECD, 2020) found that the real gross domestic product (GDP) of all countries (except China) will fall drastically in 2020. The International Monetary Fund also reported that Covid-19 had the hardest impact on the economy, especially developed countries such as France, Italy, Spain ([IMF, 2021](#)). The Covid-19 pandemic has had a severe negative impact on the global economy in 2020. Initially, world economic growth was predicted to contract by 2,9 percent. In fact, world economic growth has reached a negative 4,5 percent. With a global GDP in 2019 of 87,55 trillion US dollars, the GDP loss reached 3,94 trillion US dollars (Szmigiera, 2021).

China, as the country with the world's second largest economy, completed the 2020 pandemic brilliantly. Gross domestic product contracted 6,8% in the first quarter, then in the second to fourth quarters it grew by 3,2%, 4,9% and 6,5%. Overall, China experienced an economic growth of 2,3% in 2020, and became the only major economy in the world that grew positively during the pandemic. China's ability to thrive, even as the world struggles to control this deadly virus, is due to the country's success in controlling the coronavirus in a relatively short period of time (January to March 2020). The success of China is further strengthening its position as the dominant economy in Asia ([Jonathan, 2020](#)). This condition contrasts with the economic contraction in the US of -3,5%, Europe -3,48% ([Bloomberg, 2021](#))

ASEAN-5 countries also had different rates of economic contraction during the Covid-19 pandemic in 2020. Each country experienced negative economic growth, Indonesia -2,07%, Malaysia -5,60%, Philippines -9,50%, Singapore -0,17% and Thailand -6,10%. Goldman Sachs (2020) measures the Effective Lockdown Index (ELI), which is the impact of lockdown and social distancing on Global GDP. ELI higher score reflects the level of the economy increasingly require greater restriction. In May 2020, ELI Indonesia is relatively lower than Thailand, Malaysia and the Philippines ([Hatzius, Tilton, and Struyven, 2020](#)). This reflects that each country has different characteristics and handling of Covid-19.

Singapore received global praise for having the best practice model in attenuate the curve through extensive testing, tracing, and quarantine and close the international border to stem the import surge cases Covid-19, as well as social distancing and impose a strict lockdown ([Djalante et al. 2020](#)) With this handling model, Singapore has succeeded in reducing the lowest number of deaths among all ASEAN countries ([WHO, 2021b](#)). Apart from having an impact on the low level of Covid-19 infection, it is also the lowest economic contraction (0.17%) and the best in ASEAN.

Handling of Covid-19 in Thailand is carried out with a partial lockdown to contain the spread of the virus, accompanied by a ban on incoming flights, so that there are no imported cases of infection. The government also canceled the celebration of the Thai New Year called Songkran, as well as lockdown Phuket ([Djalante et al. 2020](#)). Thailand was successful in handling this outbreak with the lowest cumulative Covid-19 infection, but the leading tourism sector declined drastically, reaching negative economic growth of -6,10%.

The important points from the experiences of the three countries above show: China succeeded in combating Covid-19 and succeeded in creating positive growth, Singapore

provided the best model in handling Covid-19 and was relatively successful with a relatively very small contraction of 0,17%, while Thailand, succeeded in the handling of Covid-19 but experienced a sizable trade-off in an economic contraction. Indonesia has the highest Covid-19 infection cases in ASEAN and even ranks 17th in the world, but when compared to the economic contraction in Malaysia (-5,6%) and the Philippines (-9,5%), Indonesia reached -2,07 and are relatively better at coping with the economic contraction during this pandemic.

What factors drove Indonesia's economic growth in this pandemic situation? In handling Covid-19, Indonesia increased government spending in the stimulus package and simultaneously maintained people's purchasing power through various social assistance policies, as well as relaxation in July 2020. With this stimulus package, production activities went well and boosted exports during the pandemic. This phenomenon has an impact on consumption factors, government spending and exports, which encourages Indonesia's economic growth so that it does not experience a deep contraction during the 2020 pandemic.

The study of economic growth is carried out using the "the law of expanding state activity" approach, which is called Wagner's Law, which is tested based on observations in Europe, the US and Japan. Wagner examines the relationship between government spending and economic growth, where economic growth is a fundamental factor that determines public sector growth, including government spending and consumption. ([Ma'ruf and Wihastuti, 2008](#)). Other studies have shown that consumption, investment, government spending and net exports have a significant and positive effect on Indonesia's economic growth ([Ernita, Amar, and Syofyan, 2013](#)). Government spending as an instrument of fiscal policy encourages economic activity and increases economic growth. Based on the description and empirical data above, the research question is how and what sectors are driving Indonesia's economic growth during the Covid-19 pandemic?

Most of the thinking about economic growth starts from the aggregate production function in which the factors of production determine national output. According to the neoclassical theory, growth occurs in three ways, namely an increase in the supply of labor, capital and productivity, the land factor is considered constant. Increasing the supply of labor will result in greater output. Real output increases when more people take part in a country's production, for example through immigration, or when people who are not part of the labor force join in work. The increase in capital can be divided into two parts, namely physical capital and human capital. Physical capital increases output due to increased labor productivity. Human capital encourages economic growth through improving skills. The most important factor is the change in technology which affects productivity in two stages, first, inventions or advances in knowledge; second, innovation or use of knowledge that leads to more efficient production ([Burda and Wyplosz, 2001](#)).

On the other hand, the theory of endogenous growth highlights the fact that increasing productivity requires the continuous availability of a labor force with greater resources. Resources in this case include physical, human, and knowledge (technology) capital. Therefore, growth is driven by the accumulation of factors of production. This implies that the only way the government can influence economic growth in the long term is through investment in capital, education, and research and development. The decline in growth in this model occurs when public spending deters investment by creating tax breaks beyond what is needed to finance their investments or removing incentives to save and accumulate capital. ([Fölster and Henrekson, 2001](#)).

Economic growth, which reflects an increase in the ability of a country's economy to produce goods and services, refers to quantitative changes, which is measured using gross domestic product (GDP). The rate of economic growth (growth) shows the percentage increase in real national income. The Keynesian formula expresses GDP in terms of the identity equation: $Y = C + I + G + (X - M)$

This is a "source of legitimacy" for the Keynesian view of the relevance of government intervention in the economy. From this equation, it can be seen that economic growth is a function of increased consumption, government spending, investment and net exports. Economic growth is expressed in the following formula:

$$PDB\ Growth = \frac{PDB_t - PDB_{t-1}}{PDB_{t-1}} * 100\%$$

The data used are in monetary units and are calculated at constant prices. With this formula, the amount of growth is obtained by comparing the amount of GDP in period t with GDP in period t-1. (t = quarterly data, 2018-2020).

The purpose of this study was to analyze:

1. The influence of the Covid-19 pandemic and relaxation factors on public consumption, government spending, investment and net exports.
2. the effect of public consumption, government spending, investment and net exports on Indonesia's economic growth.
3. factors that drive economic growth during the Covid-19 pandemic in Indonesia.

METHODOLOGY

The analytical method used is descriptive explorative and quantitative, using secondary data from Bank Indonesia, BPS, SEKI, Bloomberg, IMF and WHO. Quantitative methods and multiple regression analysis are used to analyze the effect of the Covid-19 pandemic and relaxation factors on consumption (C), government spending (G), investment (I) and exports (X) and imports (M). Then proceed to the macroeconomic equation:

$$GDP = f(C, G, I, X, M)$$

Research equation model:

$$\begin{aligned} C_t &= a_1 + b_{11} D_1 + b_{12} D_2 + e_1 \\ G_t &= a_2 + b_{21} D_1 + b_{22} D_2 + e_2 \\ I_t &= a_3 + b_{31} D_1 + b_{32} D_2 + e_3 \\ X_t &= a_4 + b_{41} D_1 + b_{42} D_2 + e_4 \\ M_t &= a_5 + b_{51} D_1 + b_{52} D_2 + e_5 \\ Growth &= b_{61}C_t + b_{62}G_t + b_{63}I_t + b_{64}X_t + e_6 \end{aligned}$$

where,

GDP	=	Gross domestic product
Growth	=	GDP growth (%)
C	=	real household consumption (%)
G	=	real government spending (%)
I	=	real investment (%)
X	=	real exports (%)
M	=	real imports (%)
D1	=	dummy variable: 0 = without a pandemic, 1 = pandemic
D2	=	dummy variable: 0 = normal and lockdown, 1 = relaxation

Hypothesis:

- H1: The Covid-19 (D1) pandemic has a negative effect on public consumption, government spending, investment and net exports, or: $b_{11}, b_{21}, b_{31}, b_{41}, b_{51} < 0$
- H2: relaxation management (D2) has a positive effect on public consumption, government spending, investment and net exports, or: $b_{12}, b_{22}, b_{32}, b_{42}, b_{52} > 0$
- H3: public consumption, government spending, investment and net exports have a positive effect on economic growth, or: $b_{61}, b_{62}, b_{63}, b_{64} > 0$.

RESULTS AND DISCUSSION

In the period 2014 - 2019, Indonesia had a relatively good economic growth rate, namely an average of 5% per year. In 2020, Indonesia's economic growth contracted by

-2,07%, as a result of the Covid-19 pandemic. In the first quarter, Indonesia's economic growth declined to minus 2,4%, and in the second quarter it contracted even deeper, reaching 4,2%. The average world economic growth also experienced a decline in the economy by minus 2,8% in the first quarter and -7,6% in the second quarter. Likewise, Singapore contracted -13,3%, Thailand -12,10%, the Philippines -16,9% and Malaysia -17,1% (IMF, 2021). The data above shows a trade-off between health and GDP loss and it is also seen that the worst economic pressure during the Covid-19 pandemic occurred in the second quarter, in line with strict handling. In terms of economic growth, it can be seen that in the third quarter it increased and was even positive by 5%, and in the fourth quarter it contracted again by -0,4%. The equation for the negative trend line indicates a potential decline in the Indonesian economy by -0,0355 per quarter, so that the third quarter has the potential to reach -8% and the fourth quarter is -11,5%, as presented in Figure 1.

Indonesia's real GDP in 2020 is IDR 10.722.443 billion. With the negative trend above, Indonesia's GDP has the potential to decline to IDR 10.447.426 billion, and Indonesia's economic growth is minus 4,58%.

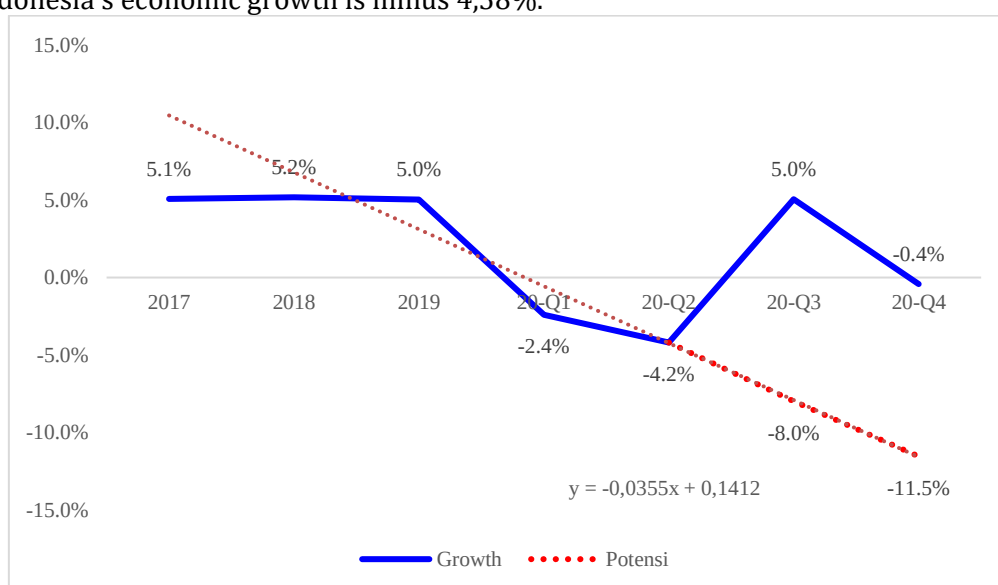


Figure 1. Potential contraction in GDP during the epidemic
Source: (Bank Indonesia, 2021)

This shows that in terms of health and economy, Indonesia managed to overcome a greater potential GDP loss through handling (handling management) Covid-19 through 3 main things, namely (a) avoiding the virus through travel restrictions and WFH, (b) preventing infection (wearing masks, keeping your distance, washing hands, limiting mass gatherings, ventilation, communication and public education), and (c) preventing the spread (early examination, tracking, treatment, quarantine and isolation). The above conditions emphasize two important things, namely the impact of (a) the pandemic and (b) relaxation on economic growth. Economic growth is seen in terms of consumption (C), government spending (G), investment (I), exports (X), and imports (M).

Consumption (C)

The impact of the Covid-19 pandemic and relaxation on public consumption is presented in Table 1 below.

Table 1. Effects of the Covid-19 Pandemic and Relaxation on Consumption

	Coefficients	t Stat	P-value	R-Square	F	Significance F
Intercept	0,022	2,305	0,055	0,645	6,369	0,027
The Covid Pandemic	-0,064	-3,396	0,012			
Relaxation	0,069	2,947	0,021			

Source: Processed (Bank Indonesia, 2021)

The equation model built shows an R-square value of 0,645, where 64,5% of the diversity of household consumption variables can be explained by the Covid-19 pandemic free variables (D1) and relaxation (D2). Besides, the calculated F value is 6,369 and significant at $\alpha = 5\%$, meaning that the model built is good.

Impact of a Pandemic on Consumption

The Covid-19 pandemic has a negative impact on household consumption, with a regression coefficient of -0.064 . This is related to the PSBB policy, so that household consumption decreases. The Covid-19 pandemic has an increasingly deep (negative) contraction in household consumption. And this is supported by the t-value of 3.396 and greater than the t-table of 2.306, or significant. In the first quarter, public consumption decreased by 1,03% from Rp. 2.355 trillion to Rp. 2.330 trillion. And in the second quarter, it decreased even further by 6,3%. The results of the data processing above confirm that the Covid-19 pandemic has a negative effect on public consumption.

Impact of Relaxation on Consumption

The government has begun to relax by adhering to the health protocol and the strict supervision of the Covid-19 Task Force. This policy is known as "make peace with Covid-19" which was proclaimed by the President of the Republic of Indonesia ([Kompas.com](https://www.kompas.com), 2020). This bold decision showed good results, where the economy began to grow, and people's purchasing power increased, and public consumption in the third quarter rose 4,5% and the fourth quarter also rose 1% to Rp 2,305 trillion. The results of statistical tests also support empirical conditions, where the relaxation factor has a positive effect on household consumption with a regression coefficient of 0,069, supported by a t-count value of 2,927 and greater than the t-table 2,306, or significant.

Government Expenditure (G)

The impact of the Covid-19 pandemic and relaxation on public consumption is presented in [Table 2](#) below.

Table 2. Effects of the Covid-19 Pandemic and Relaxation on Government

Spending	Coefficients	t Stat	P-value	R-Square	F	Significance F
Intercept	0,190	1,322	0,228	0,149	0,611	0,569
The Covid Pandemic	-0,299	-1,039	0,333			
Relaxation	0,329	0,934	0,381			

Source: Processed (Bank Indonesia, 2021)

The equation model built shows an R-square value of 0,149, where 14,9% of the diversity of government spending variables can be explained by the Covid-19 pandemic free variables (D1) and relaxation (D2). The calculated F value is 0,611, meaning that the model built is in good enough condition.

The Impact of a Pandemic on Government Spending

The Covid-19 pandemic has a negative impact on government spending, with a regression coefficient of $-0,299$. The effect of D1 variable is not significant, where the P-value of 0,333 is greater than 0,05. In the first quarter, Indonesia is still in a pre-crisis phase. And Indonesia is one of the countries that provides a fast response, as well as communication between WHO and Indonesia and WHO, so that the risk of the spread of Covid-19 is carried out in accordance with world guidelines. In the first quarter, government spending decreased by 44,9% from Rp. 462,5 trillion to Rp. 254,8 trillion. And in the second quarter, along with the handling of Covid-19, it increased by 25,4% to Rp. 319 trillion. This increase in spending is also related to the Stimulus I, II and III policies in February and March 2020. Based on the results of the data regression

processing above, it confirms that the Covid-19 Pandemic has a negative effect on government spending.

Impact of Relaxation on Government Expenditure

Government spending in the third quarter rose 18,2% and the fourth quarter also rose 27,6% to Rp 482 trillion. The results of statistical testing support empirical conditions, where the regression coefficient is 0,329. The impact is insignificant, and this is understandable, because government spending outside of handling Covid-19 also has a much larger proportion. However, the regression coefficient is positive, meaning that the relaxation factor has a positive effect on government spending.

Investment (I)

The impact of the Covid-19 pandemic and relaxation on investment is presented in Table 3.

Table 3. The Effect of the Covid-19 Pandemic and Relaxation on Investment

	<i>Coefficients</i>	<i>t Stat</i>	<i>P-value</i>	<i>R-Square</i>	<i>F</i>	<i>Significance F</i>
Intercept	0,037	1,806	0,114	0,620	5,720	0,034
The Covid Pandemic	-0,126	-3,058	0,018			
Relaxation	0,152	3,015	0,020			

Source: Processed (Bank Indonesia, 2021)

The equation model built shows an R-square value of 0,620, where 62% of the diversity of investment variables can be explained by the Covid-19 Pandemic (D1) and Relaxation (D2) independent variables. Besides that, the calculated F value is 5,720 and is significant at a = 5%, meaning that the model built is good.

Impact of a Pandemic on Investment

The Covid-19 pandemic has a negative impact on investment, with a regression coefficient of -0,126 and a t-count value of 3,058 and greater than the t-table of 2,306, or significant at a = 5%. In the first quarter, investment decreased by 8,2% from Rp. 1.360 trillion to Rp. 1.250 trillion. And in the second quarter, it decreased even more by 9,7%. The results of the data processing above confirm that the Covid-19 Pandemic has a negative effect on investment.

Impact of Relaxation on Investment

In the relaxation phase, by adhering to the health protocol rules, investment in the third quarter rose by 8,7% and in the fourth quarter it also rose 5,2% to Rp. 1.292 trillion. The above empirical conditions are also supported by statistical tests where the relaxation factor has a positive effect on investment with a regression coefficient of 0,152, supported by a t-count value of 3,015 and greater than the t-table 2,306, or significant.

Export (X)

The impact of the Covid-19 pandemic and relaxation on exports is presented in Table 4 below.

Table 4. Effects of the Covid-19 Pandemic and Relaxation on Exports

	<i>Coefficients</i>	<i>t Stat</i>	<i>P-value</i>	<i>R-Square</i>	<i>F</i>	<i>Significance F</i>
Intercept	0,013	0,450	0,666	0,481	3,238	0,101
The Covid Pandemic	-0,111	-1,991	0,087			
Relaxation	0,169	2,472	0,043			

Source: Processed (Bank Indonesia, 2021)

The equation model built shows an R-square value of 0,481, where 48,1% of the diversity of export variables can be explained by the Covid-19 Pandemic (D1) and Relaxation (D2) independent variables. Besides, the calculated F value of 3,238 and significant at a = 5%, meaning that the model built is good.

Impact of the Pandemic on Exports

The Covid-19 pandemic has a negative impact on exports, with a regression coefficient of - 0,111 and a t-count value of 1,991 and significant at a = 10%. In the first

quarter, exports decreased by 9% from Rp. 750 trillion to Rp. 682 trillion. And in the second quarter, it decreased even further by 16,2%. The results of the data processing above confirm that the Covid-19 Pandemic has a negative effect on exports.

Impact of Relaxation on Exports

In the relaxation phase, exports in the third quarter increased significantly, namely 17,5% and the fourth quarter also rose 8% to Rp 725 trillion. The above empirical conditions are also supported by statistical tests where the relaxation factor has a positive effect on exports with a regression coefficient of 0,169, supported by a t-count value of 2,472 and greater than the t-table 2,306, or significant at $\alpha = 5\%$.

Imports (M)

The impact of the Covid-19 pandemic and relaxation on imports is presented in Table 5.

Tabel 5. Pengaruh Pandemi Covid-19 dan relaksasi terhadap Impor

	<i>Coefficients</i>	<i>t Stat</i>	<i>P-value</i>	<i>R-Square</i>	<i>F</i>	<i>Significance F</i>
Intercept	0,008	0,214	0,837	0,493	3,397	0,093
The Covid Pandemic	-0,145	-2,052	0,079			
Relaxation	0,219	2,527	0,039			

Source: Processed (Bank Indonesia, 2021)

The equation model built shows an R-square value of 0,493, where 49,3% of the diversity of imported variables can be explained by the Covid-19 Pandemic (D1) and Relaxation (D2) independent variables. Besides, the calculated F value of 3,397 and significant at $\alpha = 10\%$, meaning that the model built is good.

Impact of a Pandemic on Imports

The Covid-19 pandemic had a negative impact on imports, with a regression coefficient of -0,145 and a t-count value of 2,052 and significant at $\alpha = 10\%$. In the first quarter, imports decreased by 12,5% from Rp. 785 trillion to Rp. 687 trillion. And in the second quarter, it decreased even further by 18%. The results of the data processing above confirm that the Covid-19 Pandemic has a negative effect on imports.

Impact of Relaxation on Imports

In the relaxation phase, imports in the third quarter rose quite significantly, namely 0,9% and the fourth quarter also rose 15,2% to Rp 654 trillion. The results of statistical testing show that the relaxation factor has a positive effect on imports with a regression coefficient of 0,219, with a t-count value of 2,527 and greater than t-table 2,306, or significant at $\alpha = 5\%$. Before the Covid-19 pandemic, Indonesia's net export performance was in a negative condition, where the export value was less than the import value. During the Covid-19 pandemic, it was also something to be proud of, where Indonesia's exports increased in the third and fourth quarters. Meanwhile, consumption is much smaller than exports, resulting in a net export surplus of Rp 103 trillion in the third quarter. However, imports rose again in the fourth quarter, with net export performance still positive at Rp 71 trillion.

Economic growth

The equation model built is in accordance with the macroeconomic identity equation, where economic growth is influenced by consumption, government spending, investment and net exports. In this model, the constant is set to 0, to capture the effect of the four free variables on Indonesia's GDP growth in the 2019-2020 period, or before and during the Covid-19 pandemic. The R-square value is 0,950, where 95,0% of the variability of Indonesia's economic growth variables can be explained by the four independent variables according to the model built. The model built is good, due to the F value of 28,754 and significant at $\alpha = 1\%$.

Public consumption (C) has the most dominant influence in influencing Indonesia's economic growth during this pandemic, namely with a regression coefficient of 1,560. This is also supported by the largest proportion of consumption compared to the other three variables - in Indonesia's GDP posture. In the pre-pandemic period, the average

proportion of consumption to real GDP was 55,43%. The proportion of consumption in GDP during the pandemic decreased by 0,31% to 55,12%. This is in line with the regression test above, that the Covid-19 pandemic has a negative effect on household consumption, and this decline in consumption in turn has an effect on Indonesia's economic growth. Statistical testing shows the t-count value of 4,450, greater than the t-table 2,306, or significant at $\alpha = 1\%$.

Table 6. Effects of Consumption, Government Expenditures, Investment and Net Exports on Economic Growth

	<i>Coefficients</i>	<i>t Stat</i>	<i>P-value</i>
Consumption	1,560	4,540	0,004
Government Expenditures	0,045	2,640	0,039
Investation	-0,360	-1,939	0,101
Net Exports	0,009	0,889	0,408

Source: Processed (Bank Indonesia, 2021)

Government spending (G) also has a positive effect on Indonesia's economic growth, with a regression coefficient of 0,045. The statistical test shows the t-count value of 2,640, greater than the t-table of 2,306, or significant at $\alpha = 5\%$. In the pre-pandemic period, the average proportion of government spending to real GDP was 8,12%, and it will increase by 0,02% in 2020 to 8,12%. This also confirms that increased government spending for handling the Covid-19 pandemic is effective and has a positive impact on economic growth.

Investment (I) during the pandemic has a positive effect on Indonesia's economic growth, with a regression coefficient of -0,360. The statistical test shows the t-count value of 1,939, and it is significant at $\alpha = 10\%$. This negative effect is also consistent with the decline in the proportion of investment to real GDP, which decreased by 0,73% from 32,62% to 31,89%. Thus, during this pandemic period, the investment variable was not a factor that had a positive effect on Indonesia's economic growth.

Net exports (XN) during the pandemic had a positive effect on Indonesia's economic growth, with a regression coefficient of 0,009, but this effect was not significant. The proportion of net exports to real GDP during the 2020 pandemic, increased by 1,7% from 1,58% to 3,28%. This increase was relatively large, and included factors that had a positive impact on Indonesia's economic growth during the Covid-19 pandemic in 2020. Indonesia's net exports experienced a surplus in the second, third and fourth quarters of the pandemic.

The results of this multiple regression analysis indicate that public consumption, government spending and net exports have a positive effect while investment has a negative effect on Indonesia's economic growth. In the period before the 2016-2019 pandemic, Indonesia's average economic growth was 5,07%. In 2020, the Indonesian economy contracted by -2,07%, as a result of the Covid-19 Pandemic. Based on the business field, it can be seen that several sectors experienced growth during the pandemic, namely health services 11,60%, information and communication 10,58%, water supply, waste management, waste and recycling, financial services and insurance services 3,25 %, education services 2,63%, real estate 2,32% and the agricultural sector 1,72%.

On the other hand, the most severe conditions as a result of this pandemic have had a devastating impact on tourism in Indonesia. This is reflected in a decrease in the transportation and warehousing business, amounting to Rp 69.675,6 billion (-15%) including air transportation, a decrease of Rp 37.067,3 billion (-53,01%), warehousing and transportation support services, post and

services. couriers decreased by IDR 13.509,8 billion (-17,6%), the provision of accommodation and food and beverages, decreased by IDR 34.058,8 billion (-10,22%), as well as the provision of accommodation, decreased by IDR 15.583,8 billion (-24,4 %).

Decrease Income per Capita

Indonesia's economic growth in 2020 is minus 2,07% in 2020 as a result of the Covid-19 pandemic. In Figure 1, we can see the equation of the decline in Indonesia's GDP: $\text{Growth} = 0,1412 - 0,0355 X$, where X represents the time (quarterly). With this trend coefficient, Indonesia's 2020 GDP can be calculated in 3 scenarios, as presented in following table.

Table 8. Indonesia's GDP Scenario in 2020

Scenarios (Conditions)	Growth (%)	Riel GDP (Rp Trillion)	GDP/Capita (US\$)
There's a Pandemic	-2,07	10.722	3.911,7
The worst pandemic	-4,58	10.476	3.774,4
No Pandemic	5,01	11.507	4.314,8

Source: Processed (Bank Indonesia, 2021)

With a simulation analysis without the Covid-19 pandemic and the assumption of Indonesia's economic growth of 5,1%, Indonesia's real GDP is IDR 11.507.439 trillion, and per capita income reaches 4.314,8 US \$. Conversely, in the worst conditions, Indonesia's economic growth has the potential to be minus 4,58%, with real GDP falling to IDR 10.447.426 trillion. This shows that the handling of Covid-19 by relaxing in the third quarter has succeeded in creating economic growth with a smaller contraction. This has an impact on decreasing income per capita from 4.192,7 US \$ (2019) to 3.911,7 US \$ ([BPS, 2020](#)) (Table 8).

CONCLUSION

Economic growth in 2020 contracted by 2,07%. Statistical testing shows that the Covid-19 pandemic has a negative and significant effect on public consumption, investment, exports and imports. Meanwhile, government spending is in a negative sign, but not significant. This is related to the stimulus policies needed to deal with the pandemic as well as higher government spending to keep people having good purchasing power. In addition, Indonesia is one of the countries that has a fast response in handling the Covid-19 pandemic. This success avoided the worst potential economic growth potential of minus 4,58%.

Besides the strict handling of the health sector, the government also pays attention to the economic side, which is carried out wisely and relatively not carelessly (neither rushed nor late), namely implementing relaxation wisely and gradually since the third quarter by continuing to apply health protocols. Statistical testing shows that this relaxation factor has a positive effect on public consumption, government spending, and net exports, but has not been able to create positive investment growth.

Thus, there are three factors that have a positive and significant impact on economic growth during the 2020 pandemic, namely public consumption, government spending, and net exports. Among the three factors, the most dominant factor is public consumption. This is very conducive, considering that consumption has an average proportion of 55,43% and is the largest in GDP.

The driving factor for economic growth during the Covid-19 pandemic was the public consumption variable. Until now the Covid-19 pandemic is still ongoing, therefore, government policies, both stimulus policies and social assistance to grow and increase the purchasing power of the people are very necessary and must be carried out.

The choice of policy between the economic and health sectors needs to be made in a balanced manner. Currently the world is still facing the problem of uncertainty when

this pandemic will end. This is exacerbated by the condition of the emergence of a second or third wave in a number of countries in the world. Therefore, handling in the health sector is also very necessary. If there is a higher increase in daily cases, then the relaxation policy should be reduced and vice versa, PSBB is strictly enforced. The trade-off will have an impact on slowing economic growth.

Vaccination to create herd immunity provides hope for the Indonesian nation to enter a relaxation phase. Furthermore, the relaxation phase will have an impact on economic growth. Therefore, educating the public to continue implementing proper health protocols, social distancing, guarding the crowd, is still being carried out strictly. This support aims to increase the effectiveness of the vaccination so that public immunity can be realized.

Suggestions for further research are research on the effectiveness of vaccinations and the phenomenon of the emergence of several Covid-19 virus mutations. This is aimed at preparing Indonesia to enter a phase of relaxation and a new normal, which in turn has an impact on economic growth.

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