Original Article

Pandemic Bonds Analysis of Inflation and Economic Growth in Overcoming Covid-19 Outbreak in Indonesia

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Abstract - *The purpose of this research is to analyze short-term Pandemic Bonds, which can affect inflation and economic growth in repelling the negative effects of the Covid-19 virus outbreak that has an impact on the global economy, especially Indonesia. The specific target in this study is to find a director, not an appropriate influence in maintaining the economic stability and financial system in Indonesia because Pandemic Bonds is one of the policies traveled by the Government to encourage economic growth in controlling economic stability and global finance. The results of the study using the Path Analysis method that the Government Debt Securities and Government Islamic Securities affect economic growth through inflation gaining empirical support or inconclusive hypotheses received.*

Keywords - *Government Debt Securities (SUN), Government Islamic Securities (SBSN), inflation, and economic growth.*

I. INTRODUCTION

The global phenomenon of Coronavirus in China certainly affects Indonesia's trade balance because China is one of our main trading partners, with valuations reaching the US $72,8 billion in 2019, as noted by the Ministry of Commerce [1]. BI assesses that the impact of Covid-19 on Indonesian macroeconomics can be seen on several indicators, such as economic growth, oil price, rupiah exchange rate, inflation, and gross domestic product nominal (GDP). The central bank by the Act (UU) on Bank Indonesia (BI) has a principle rule that is not able to finance the state fiscal deficit or the state budget of income and expenditure (APBN). However, the current conditions are different, and space for BI to be able to finance the state budget deficit has been poured out in the government regulation for substitute legislation (PERPPU).

Regulation Number 1 the year 2020 on the state financial policy and financial system stability for the treatment of pandemic Corona Virus Disease 2019 (Covid-19) and or in the framework of facing threats that endanger the national economy and or financial system stability. A copy of Perppu 1/2020 obtained by Bareksa mentions

authority and policy enforcement by BI, which is governed in article 16 to article 19. [1] Among other things mentioned, paragraph 1 (c) of article 16 Perppu 1/2020 mentions BI given authority to purchase Government Debt Securities (SUN) and/or Government Islamic Securities (SBSN) long term in the prime market for the handling of financial system problems that endanger the national economy, including the state treasury and or Sharia securities issued with a particular purpose specified in the framework of the pandemic Corona Virus Disease 2019 (COVID-19). The BI authority, by article 2 paragraph 1 (f) Perppu 1/2020 stating that it publishes Government Debt Securities (SUN) and or Government Islamic Securities (SBSN) with a specific purpose, especially to pandemic Corona Virus Disease 2Ol9 (COVID-L9) to be purchased by Bank Indonesia (BI), state-owned enterprises (SOES), corporate investors, and or retail investors.
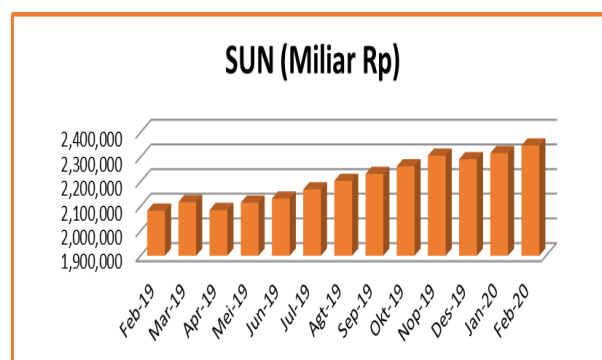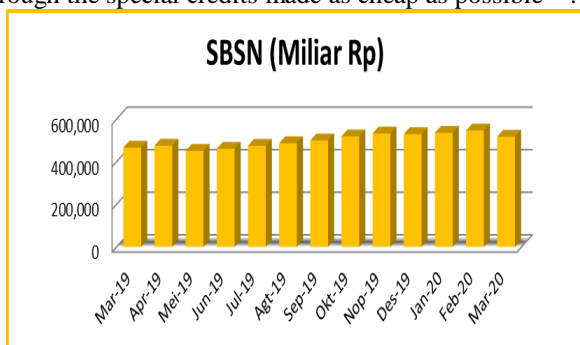

Fig. 1 Development of Government Debt Securities (Rp billion) in Indonesia Feb-2019 S/d Feb-2020
Source: Bank Indonesia

In the picture above, it can be seen that the development of Government Debt Securities increased every month, including from December 2019 to March 2020. This is due to the policy taken by Bank Indonesia to maintain the stability of the economy in Indonesia that can impact the economic and financial sectors globally. The quicker it is to overcome the COVID-19 pandemic, the more rapidly the economic and financial sectors are minimized.

But it differs from the government of Government Islamic Securities to withdraw debt through the Government Islamic Securities (SBSN) or Sukuk on 24 March 2020. The auction was carried out to meet financing in the BUDGET 2020. Also, the auction is done amid the coronavirus outbreak challenge; from the auction, the government earned Rp 6.6 trillion. This figure is lower than the specified indicative target of Rp 7 trillion. The funds raised from the bonds in the rupiah will be held by the Government and channeled into the business world through the special credits made as cheap as possible [1].

Source: Bank Indonesia

Fig. 2 Development of Government Islamic Securities (billion Rp) in Indonesia Mar-2019 S/d Mar-2020

Explanation of the chart that the auction will increase in each month, especially in January-February 2020, this is due to meet the financing of BUDGET 2020. However, due to still not achieved specific, the government still held an additional Government Islamic Securities (SBSN). In the April 2020 auction, the government absorbed approximately Rp 9.98 trillion. The result of this auction shows the existence of the Indonesian bond market is still good enough, and the government will be holding the Government Islamic Securities (SBSN) additional or greenshoe option again. The move was taken to meet the target that was shot by the government worth Rp 8 trillion. The series of state Sukuk auctioned are a letter of Sharia state treasury (SPN-S) and four project-based Sukuk (PBS) to meet a portion of the financing target in the BUDGET 2020. The implementation of additional auctions can be followed by the Bank Indonesia (BI), the deposit Institution (LPS), and/or the main dealer who delivers the offer in the purchase of the Government Islamic Securities auction.

Therefore, the importance of maintaining the stability of the economy through economic growth and stability (inflation), in this case, the government is represented by the Minister of Finance to establish a policy of securities auction of the state Course or Sharia securities of the country to investors. Given the importance of the economic planters at the moment, then this research intends to study deeper which variables most significantly affect the economic growth movement in the Pit of the COVID-19 outbreak that is engulfed the global economy, especially the country of Indonesia. The results of this analysis are expected to be input policymakers as Bank Indonesia, Minister of Finance, and Minister of trade to predict Indonesia's economic stability.

II. LITERATURE REVIEW

A. GOVERNMENT DEBT SECURITIES (SUN)

The Government Debt Securities (SUN) is a security in the form of a letter of acknowledgment in Rupiah currency or foreign exchange guaranteed interest payment and the subject of the Republic of Indonesia, according to the validity period.

The purpose of Government Debt Securities issuance is to: (1) Finance the APBN deficit, (2) Close short-term cash shortages, and (3) manage state debt portfolios. The central government was authorized to issue Government Debt Securities after receiving the approval of the DPR, which was passed in the framework of the state BUDGET and after consulting with Bank Indonesia.

The current short-and medium-term strategy of Government Debt Securities management is: The refinancing risk decreases mainly in the short term, extending the average period of Government Debt Securities maturity, balancing the maturity structure of the Government Debt Securities portfolio to align with the development of the country's budget and absorption of the market, as well as develop and increase the liquidity of the secondary market Government Debt Securities, so that in the long term

Until this time, Government Debt Securities was published without Scripless Securities. Registration of ownership is done electronically. As mandated in law number 24 of 2002 concerning the State treasury, the administrative activities that include the recording of ownership, clearing, and settlement, as well as the payer agent and the Government Debt Securities principal, are implemented by Bank Indonesia. [1]

B. Government islamic securities (sbsn/sukuk negara) the perspective of the republic of indonesia no. 19 the year 2008

Government Islamic Securities in article 1 is explained that securities denominated in rupiah and foreign exchange based on sharia principles issued by the Republic of Indonesia, whether executed directly by the Government or through the SBSN issuing company, as evidence of the inclusion of the assets of SBSN and must be paid or guaranteed payment of the remuneration and the nominal value by the Republic of Indonesia in accordance.

While the purpose of the publication of Government Islamic Securities is the financing of the country's expenditure income, including financing proyek2, which is meant by financing project development is financing the development of projects that have gained allocation in the State budget and income, including infrastructure projects in the energy sector, telecommunications, transportation, agriculture, manufacturing industry, and public housing.

In this case, the government is working with Bank Indonesia to open registration to prospective investors who want to invest in the form of Government Islamic Securities through seller agency Sukuk Ritel [1].

The forms of Government Islamic Securities are published in the form of a warranty or without a warranty. Government Islamic Securities with a warranty is a letter based on the principle of sharia whose ownership is a certificate both on behalf and on the rally. A certificate on behalf is a certificate whose owner's name is listed, while the certificate on the rally is a certificate that does not include the name of the username so that everyone who owns it is the rightful owner. Scriptless Government Islamic Securities is a securities based on the sharia principle, which is recorded by electronic (book-entry system).

The issuance of Government Islamic Securities can be implemented directly by the Government through the issuing company established by the Government Islamic Securities issuance Minister either directly by the Government and through the Government Islamic Securities issuing company referred to the interests of the Republic of Indonesia. In the implementation, the publication of Government Islamic Securities can be done domestically and abroad. The issuance of Government Islamic Securities by Government Islamic Securities company is conducted only in the case of Government Islamic Securities structure requires a Special Purpose Vehicle (SPV). The Minister stipulates all matters relating to the issuance policy of Government Islamic Securities, among others the number of targets indicative issuance, publication date, method of publication, denomination, Akad structure, pricing, and other matters contained in the terms and conditions (terms and conditions) of Government Islamic Securities. Accordingly, the authority of the Government Islamic Securities Issuer company is limited to issuing Government Islamic Securities. [1]

C. INFLATION

According to [1], inflation is a continuous increase in price, which leads to a lower purchasing power of the community, so it has a significant effect on declining revenue. So, for example, the big inflation of the year in question rises by 5%, while the income remains, then it means that in real revenue decreased by 5%, which consequently will relatively decrease the purchasing power by 5% as well.

In addition to the inflation theory of inflation supporting theory is as follows:
1. Quantity theory
   The theory of inflation initially evolved from a theory known as the quantity theory (about money). Quantity is essentially a hypothesis about the factors that cause price level changes when the increase in the amount of money supply is a deciding factor or factor that affects the increase in price levels. The quantity theory not only states that the amount of money circulating is the cause of price level change. The theory of Money quantity is also related to the theory about (1) the proportionality of the amount of money with the price level, (2) monetary transmission mechanism, (3) Money neutrality, and (4) Monetary theory about the price level. The theory of Money demand essentially states that the demand for Community money is determined by several economic variables that include economic growth, interest rates, and price levels. In line with the theory of Money request, the price level or the inflation rate will only change if the amount of money supply does not match the amount requested or required by an economy. If the amount of money circulating is greater than the amount of money requested or required by the community, then the level of the rate increases, and inflation may occur. Conversely, if the amount of money circulating is smaller with the amount of money needed by the community, then the price level will drop, and what happens to be called deflation.

2. Keynes theory
   Keynes's theory says that inflation occurs because people live beyond the limits of their economic ability. This theory highlights how the scramble sustenance can lead to an aggregate demand greater than the number of goods available, i.e., when I > S. During the inflation gap, there is still a substantial probability that inflation may occur when the supporting forces in the economy are not encouraged (e.g., Government policy in the form of government expenditure, fiscal policy, foreign policy, etc.)

3. Structuralist theory or long-term inflation theory.
   This theory highlights the causes of inflation derived from the rigidity of the economic structure, particularly the hardness of food supplies and export goods. Because the structural reasons for the addition of these production goods are too slow compared to the growth of their needs, thereby raising the prices of other goods, so that there is relatively prolonged inflation when the development of the food production sector and export goods industry is not addressed/added [1]. There is another fact that the continual rise in prices that result in inflation can also be due to the increase in the foreign currency exchange rate (hard currency) significantly against the domestic currency.

D. ECONOMIC GROWTH

Economic growth is described as an increase in the economic ability to produce goods and services. Economic growth is one of the most important indicators in analyzing the economic developments that occur in a country. Economic growth shows the extent to which economic activity will result in additional community revenues in certain periods. Because the economic activity is essentially a process of using production factors to produce output, this process will, in turn, result in a flow of service

to the production factory that is owned by the community. With economic growth, it is expected that community income as the owner of the production factor will also increase [1].

According to Rostow, economic growth can be interpreted as a process that causes changes in people's lives, namely political change, social structure, social value, and the structure of its economic activities. While according to Prof. Simon Kuznets, economic growth is defined as a long-term increase in the ability of a country to provide more and more types of economic goods to its inhabitants where these capabilities grow by technological advances and the institutional and ideological adjustments it needs. Also, in his earlier book Modern Economic Growth in 1966, he defined economic growth as a continuous increase in the products per capita or per worker, often followed by an increase in population and usually with structural changes [1].

According to Smith that population development will encourage economic development. The growing population will expand the market, and market expansion will heighten the level of specialization in the economy. As a result of the specialization, economic activity will increase. The development of specialization and division of work among the workforce will accelerate the process of economic development because specialization will enhance the workforce productivity level and encourage the development of technology [1].

III. RESEARCH METHOD

This study uses quantitative methods with the Path Analysis model approach. The quantitative method in this study was related to secondary data on latent variables (endogenous and exogenous variables) with the Quartal period data time series of Q1-2015 up to Q4-2020
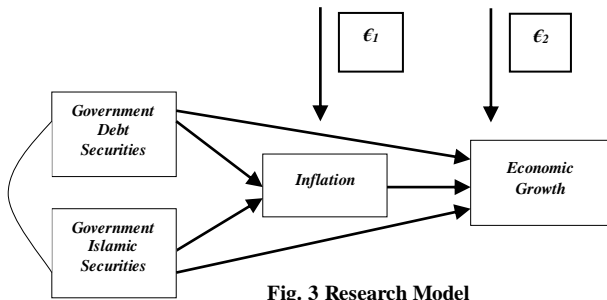

Fig. 3 Research Model

A. Analysis Method

The method of analysis used in this study uses a structural equation of Path Analysis. Path Analysis is used when in theory, we believe in dealing with problems related to causation. The goal is to explain the direct and indirect consequences of a set of variables, as a variable of the cause, against other variables that are variable-induced (Tugino, 2012). Path Analysis is assisted with the application program SPSS 23.

The Research Model on Figure 3 consists of two structural equations, where the X1, X2, and is an exogenous variable and Y1 as well as Y2 is an endogenous variable. The structural equation can be seen as follows:

$$Y_1 = PY_1X_1 + PY_1X_2 + \acute{\varepsilon}_1 \qquad (1)$$
$$Y_2 = PY_2X_1 + PY_2X_2 + PY_2Y_1 + \acute{\varepsilon}_2 \qquad (2)$$

Where
Y1 = inflation
Y2 = economic growth
X1 = Government Debt Securities
X2 = State Treasury
$\acute{\varepsilon}1, \acute{\varepsilon}2$ = Error

IV. RESULT AND DISCUSSION

A. Result

1. Test-Path Analysis Equation I of state debt to economic growth through inflation

Table 1. Output Results in the First Equation

Model	Predictors	D.Variable	R	S. Coefficients
1	Government Debt Securities	Inflation	0.742	-0.742
2	Inflation Government Debt Securities	Economic Growth	0.826	-0.204 -0.966

Sumber : Hasil Output SPPS 23 diolah.

Following calculation method Equation 1:

$$Pe_1 = \sqrt{1 - 0{,}742^2} = 0.670$$
$$Pe_2 = \sqrt{1 - 0{,}826^2} = 0.564$$

$R^2m = 1 - P^2e_1 . P^2e_2 .$
$\quad\quad = 1 - (0.670)^2 (0.564)^2$
$\quad\quad = 1 - (0.449) (0.318)$
$\quad\quad = 0.857$
$\quad\quad = 85.7\%$

The Result of a coefficient of determination of 85.7% indicates the information contained in the data can be explained by the model, while the remainder of 100%-85.7% = 14.3% is explained by errors and other variables outside the model. The number of coefficients on this model is relatively large, so it deserves further inner achievements.

2. Test-Path Analysis The second equation of the state Sharia securities on economic growth through inflation

Table 2. Output Results in the Second Equation

Model	Predictors	D.Variable	R	S. Coefficients
1	Government Islamic Securities	Inflation	0.750	-0.750
2	Inflation Government Islamic Securities	Economic Growth	0.826	-0.212 -0.973

Sumber : Hasil Output SPPS 23 diolah.

Following calculation method Equation 2:

$Pe_1 = \sqrt{1 - 0,750^2} = 0.661$

$Pe_2 = \sqrt{1 - 0,826^2} = 0.564$

$R^2m = 1 - P^2e_1 . P^2e_2 .$

$= 1 - (0.661)^2 (0.564)^2$

$= 1 - (0.437) (0.318)$

$= 0.861$

$= 86.1\%$

The result of the coefficient of determination of 86.1% indicates the information contained in the data can be explained by the model, while the remainder of 100%-86.1% = 13.9% is explained by errors and other variables outside the model. The number of coefficients on this model is relatively large, so it deserves further inner achievements.

B. Discussion

1. Discussion of output results in the first equation as follows:

- Provide a standardized beta value for Government Debt Securities of -0.742 and significant on 0.000, which means Government Debt Securities affect Inflation. The coefficient value standardized beta - 0.742 is the value of the path or path P_2.

- In table 1, the output provides a standardized beta value for Government Debt Securities -0.204 and Inflation of -0.966, but Government Debt Securities is not significant at 0.317, which means Government Debt Securities does not affect Economic Growth whereas inflation is significant at 0.000, which means Inflation affects Economic Growth. The value of the standardized beta Government Debt Securities -0.204 is a path or path value of P_1, and the standardized beta value of inflation-0966 is the value of the P_3 path. The magnitude of the value $e_1 = (1 - 0.527) 2 = 0.2237$ and the magnitude of value $e_2 = (1 - 0.647) 2 = 0.124$
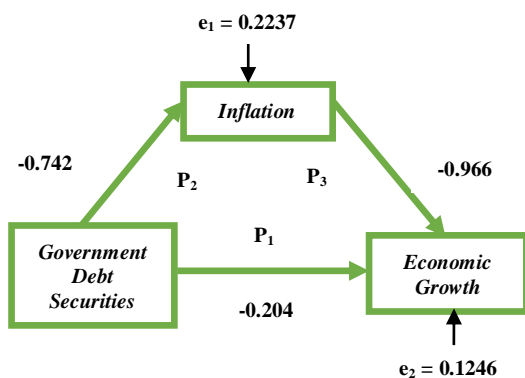

Fig. 4 Intervening Analysis the First Equation

The result of the path analysis Figure 4 explains if the state debt letter has a direct influence on economic growth and can also affect the indirect effect of the

government bonds to inflation (as an intervening variable) and then to economic growth. The amount of direct influence is -0.204, while the large indirect influence should be calculated by multiplying the indirect coefficient of P_2 x P_3 = (-0.742) x (-0.966) = 0.717 or the total influence of state Treasury to economic growth is P_1 + (P_2 x P_3) = -0.204 + (-0.742 x -0.966) = 0513. Because of the value (P_2 x P_3 > P_1), inflation serves as an intervening variable. This means that indirect influence through inflation is greater than the direct influence on economic growth. Based on this, the results of a research hypothesis stating that the State Treasury letter affects economic growth through inflation gain empirical support or an acceptable hypothesis to be concluded.

2. Discussion of output results in the second equation as follows:

- Provide a standardized beta value for Government Islamic Securities of -0.750 and significant in 0.000, meaning Government Islamic Securities affects Inflation. The coefficient value standardized beta-0.750 is the value of the path or path P_2.

- In table 2, the output provides a standardized beta value for Government Islamic Securities of -0.212 and inflation of -0.973, but Government Islamic Securities is not significant at 0.305, which means Government Islamic Securities does not affect economic growth while inflation is significant in 0.000, which means inflation affects economic growth. The standardized beta value of Government Islamic Securities -0.212 is a path or path value of P_1, and the standardized beta value of inflation-0.973 is the value of the P_3 path. The magnitude of the value $e_1 = (1 - 0.540) 2 = 0.2116$ and the magnitude of value $e_2 = (1 - 0.648) 2 = 0.1239$
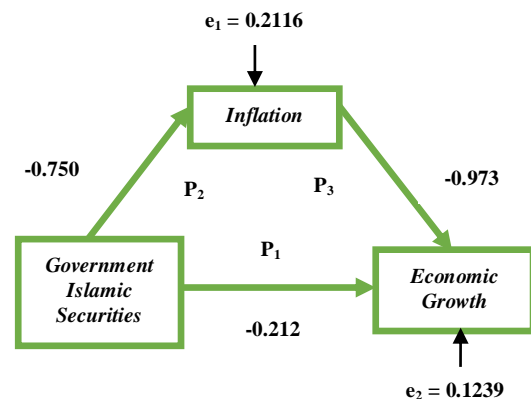

Fig. 5 Intervening Analysis the Second Equation

The results of the path analysis show that the state sharia securities directly affect economic growth and may also have an indirect effect on the influence of the state Sharia securities on inflation (as an intervening variable) and then on economic growth. The amount of direct influence is -0.212, while the large indirect

influence should be calculated by multiplying the indirect coefficient of P_2 x P_3 = (-0.750) x (-0.973) = 0.729 or the total influence of state Treasury to economic growth is P_1 + (P_2 x P_3) = -0.212 + (-0.750 x-0.973) = 0.517. Because of the value (P_2 x P_3 > P_1), inflation serves as an intervening variable. This means that indirect influence through inflation is greater than the direct influence on economic growth. Based on this, the results of the research hypothesis stating that the Islamic government securities affect economic growth through inflation gaining empirical support, or can be deduced as accepted hypotheses.

V. CONCLUSION AND LIMITATION

A. Conclusion

Based on the results of the test path analysis can be concluded that indirect influence through inflation is greater than the direct influence on economic growth. It can then be stated that state bonds and state Sharia security's influence on economic growth through inflation gained empirical support or can be deduced from accepted hypotheses.

B. Limitation

This research has limitations. Therefore other researchers can add more relevant and effective variables in subsequent studies, as well as government advice to further control and exercise caution in issuing state bonds in short-term sales of state bonds will disrupt the market balance, so that temporary liquidity of financial markets will be disrupted until the establishment of new equilibrium and other possibilities is the transfer of long-term funds that have been embedded in the money market, while Government Islamic Securities auctions can affect the decline of resources that end the impact of economic crisis and instability.

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