

Analysis of Causality among Tax Revenue, State Expenditure, Inflation, and Economic Growth in Indonesia between 1973 and 2019

Lelly Cesarina Maulid

*Faculty of Economics and Business, Jenderal Soedirman University
Jl. Profesor DR. HR Boenyamin No.708, Dukuhbandong, Grendeng, Kec. Purwokerto Utara, Kabupaten
Banyumas, Jawa Tengah 53121, Indonesia*

Icuk Rangga Bawono

*Faculty of Economics and Business, Jenderal Soedirman University
Jl. Profesor DR. HR Boenyamin No.708, Dukuhbandong, Grendeng, Kec. Purwokerto Utara, Kabupaten
Banyumas, Jawa Tengah 53121, Indonesia*

Yudha Aryo Sudibyo

*Faculty of Economics and Business, Jenderal Soedirman University
Jl. Profesor DR. HR Boenyamin No.708, Dukuhbandong, Grendeng, Kec. Purwokerto Utara, Kabupaten
Banyumas, Jawa Tengah 53121, Indonesia*

crossref <http://dx.doi.org/10.5755/j01.ppaa.21.1.29950>

Abstract. *This study aims to analyze the causality between tax revenue, state expenditure, inflation and economic growth in Indonesia during the 1973-2019 period to provide policy advice to the Indonesian government. This country was selected as an object with consideration that its economy has grown impressively and has been able to rise from the Asian economic crisis. A brief overview of the policies developed during the research period is presented to provide insight into the policies taken by the government. The use of quantitative methods through the Vector Error Correction Model and Granger causality test was carried out to provide an in-depth analysis. The result showed a positive long-term two-way causality relationship between tax revenues and state expenditures as well as tax revenues and economic growth. This indicates that the government's efforts to implement state expenditure have succeeded in increasing tax revenues. Conversely, an increase in tax revenue allows the government to make state expenditures, both in development and other activities, to improve people's economy, leading to increased economic growth. The government must maintain an economic policy strategy during the COVID-19 pandemic to restore the national economy by considering potential sectors that are suitable for the climate, such as the agriculture or livestock sector. The result of tests on inflation show that this variable is caused by economic growth and does not apply the other way around, but this variable is has a negative effect on tax revenue, state expenditure and economic growth so its needs to be suppressed to ensure the stable economic growth.*

Keywords: *tax revenue; state expenditure; inflation; economic growth; VECM, granger causality test*

Raktažodžiai: *mokesčių pajamos; valstybės išlaidos; infliacija; ekonomikos augimas; VECM, Grangerio priežastingumo testas*

Introduction

This research examines and analyzes the effect and cause relationship among tax revenue, state expenditure, inflation and economic growth. Since the outbreak of the COVID-19 virus, every country has tried to overcome the associated downturn, especially in the economic field, through the formulation of appropriate fiscal and monetary policies. Therefore, analysing these variables and learning their causality contribute to formulating the government's policies.

Considerable research has been conducted to assess the causal relationship among tax revenue, state expenditure, inflation and economic growth. However, mixed results have been generated and a gap for further analysis exists. Gurdal, Aydin, and Inal (2020) stated that research carried out in Japan, France, the United States, Britain, Germany, Canada and Italy indicated that public spending directed at production and capital infrastructure promotes economic growth. Furthermore, Irandoust (2019) reported that the government's efforts to increase spending efficiency to promote economic growth in low-income countries in Sub-Saharan Africa are not working adequately. GDP in Romania increases, which probably means that government spending and income move in a positive direction; therefore, there is a bidirectional causality between the government's income and expenditure (Roşoiu 2015). According to Ndubuisi, Ezeokwelum, and Maduka (2020), Nigeria, as a developing country, is easily affected by the global recession; therefore, to increase economic growth, it is necessary to cut unemployment by creating more avenues for jobs.

The variables in several preliminary research studies were used in Indonesia's economy as a member of the G-20, with its purchasing power parity ranked tenth in the world. The country's economy grew impressively and rose from the Asian economic crisis in the late 1990s. Its ability to decrease the poverty rate to below 10% over the past twenty years is a strong justification for selecting Indonesia as the research object. As a diverse archipelago nation with more than 300 ethnic groups and the world's fourth most populous nation (The World Bank 2021), its selection is expected to contribute to the scientific knowledge of developing countries. This quantitative research does not only examine the causal relationship through the Granger causality test, but it also performs a hypothesis to examine the direction of the relationship of each variable through the VECM. Furthermore, it aims to deeply explore the effect of the variables as mentioned above was not highlighted in the previous research carried out using the Granger causality test.

Literature review

Figure 1a shows that taxation in Indonesia has increased since 1994 with the beginning of the second tax reform. It included improving tax regulations related to General Provisions and Tax Procedures, Income Tax, Value Added Tax on Luxury Goods as well as Land and Building Taxes. The third reform was marked by the issuance of tax law in 1997, which regulates the Tax Dispute Settlement Agency, Local Taxes and Retributions, Collection with Distress Warrant, Non-Tax State Revenues and Duty on the Acquisition of Land and Building Right. According to Wijayanti and Budi (2010), its effectiveness has more than one elasticity value of VAT (Value Added Tax) and Income Tax to GDP. Subsequent reforms were issued in 2000 and 2007. The fourth reform is an amendment to the existing tax law as an adjustment to social and economic developments in Indonesia. The fifth reform is an amendment to the General Provisions and Tax Procedures and Income Tax provisions (Isroah, 2013). Wijayanti and Budi (2010) stated that the tax reform has a practical impact on excise revenue.

State expenditure is highly dependent on tax revenues (Asahdi, Hamzah and Musnadi 2015; Ndubuisi, Ezeokwelum and Maduka, 2020). This is indicated in an increase in Figure 1b during the economic crisis in 1998. The increase was caused by the government's policies to tackle inflation by raising and decreasing development and routine expenditures by 22.4% and 2%, respectively (Kementerian Keuangan Republik Indonesia, 1998). In 2002, state expenditure decreased due to fiscal policy intensification and tax extensification. In 2001, the economic pressure due to the depreciation of the rupiah, rising inflation, soaring interest rates, unstable political conditions and weakening global economic developments impacted the adjustment of the government's fiscal policy (Kementerian Keuangan Republik Indonesia, 2001). State expenditure significantly increased from 2003 to 2008. However, in 2009 there was a decline caused by the government's policy to reduce subsidies for fuel oil and electricity as a form of adjustment to the financial condition of the country affected by the global crisis (Kementerian Keuangan Republik Indonesia, 2009). From 2010 to 2019, the curve continued to move vertically, indicating an increase in state expenditure.

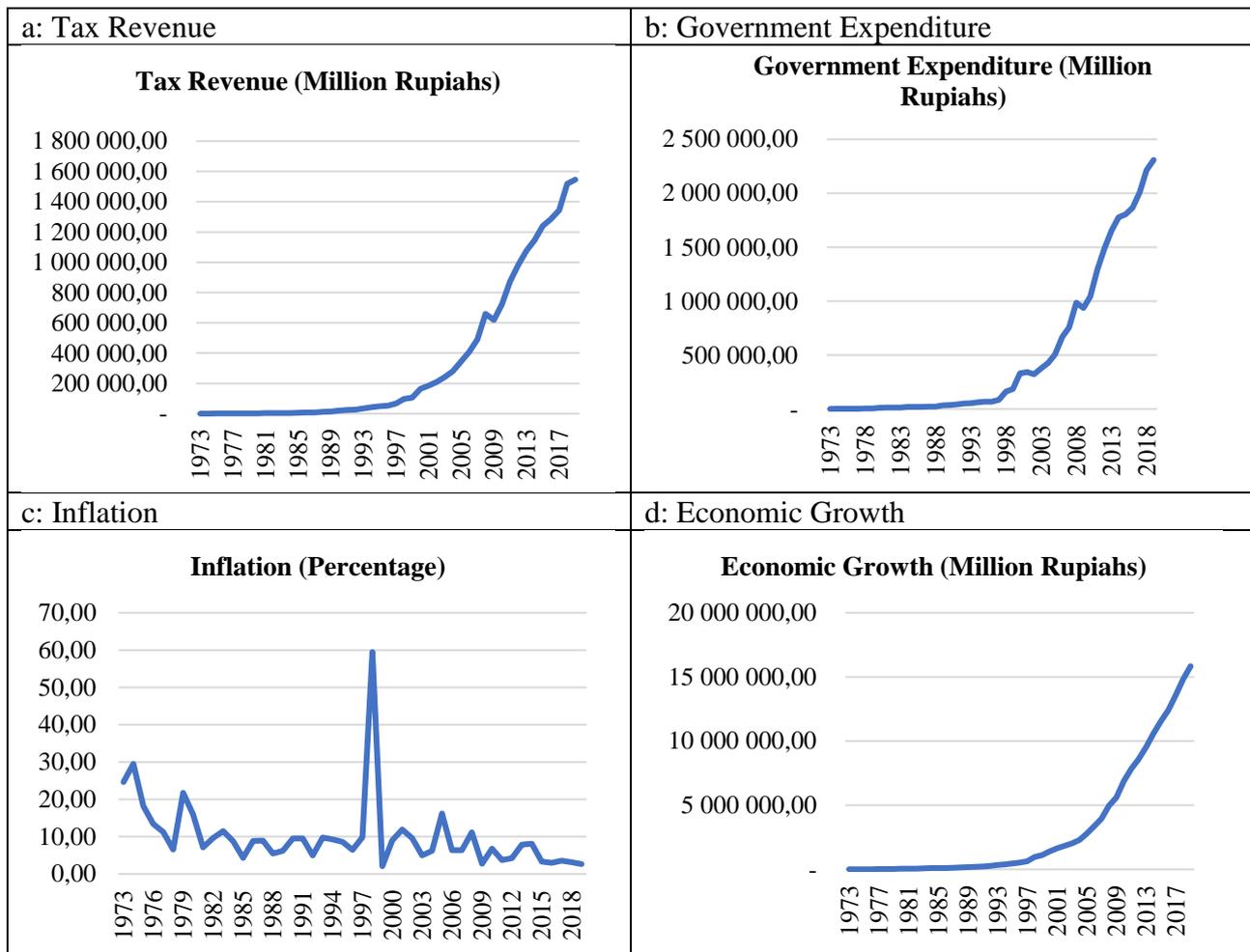


Figure 1. Fiscal and Monetary Policy in Indonesia

Source: Ministry of Finance Indonesia (1973-2019), Bank Indonesia (1973-2019), Statistics Indonesia (1973-2019).

From 1973 to 1974, the increase in Indonesia's inflation rate was caused by the skyrocketing of oil prices globally, which was then stabilized by the government through a selective credit policy, as shown in Figure 1c (Astiyah 2010). Inflation also experienced a spike in 1979 and 1980, allegedly due to the increase in the money supply. According to a World Bank report, the growth in the money supply in Indonesia from 1980 to 1982 was relatively high compared to other ASEAN countries (Atmadja, 1999). In 1983, the government issued a deregulation policy in indirect monetary control and freed banks to determine their interest rates to suppress inflation (Astiyah, 2010). This caused inflation to be relatively stable until 1997 before it uncontrollably spiked in 1998 due to the Asian financial crisis and caused the rupiah to depreciate against foreign currencies and the US dollar (Syaiful Maqrobi, 2011). Furthermore, the rate of importing commodities skyrocketed, followed by rising foreign debt, prompting the government to issue monetary policy by raising interest rates to attract investors to deposit foreign currencies in Indonesia (Atmadja, 1999). The inflation rate in the following year was controlled by the government and reduced to 2%. However, in 2004 it became volatile but under control, while in 2005 it rose to double digits due to the increase in fuel oil (BBM). This was followed by a significant rise in 2008 due to the same policy (Astiyah, 2010). Meanwhile, from 2009 to 2019, inflation was relatively stable.

Figure 1d shows that in 1998, Indonesia's economic growth remained on a positive path despite the Asian monetary crisis. A powerful strategy to overcome this economic instability is to combine fiscal and monetary policies (Kementerian Keuangan Republik Indonesia, 1998). In 2002, the economic growth decreased due to the disruption of the economies of developed countries after the attack on the World Trade Center in 2001 (Syaiful Maqrobi, 2011). The Indonesian economy continued to increase from 2003 to the third quarter of 2008 and in the fourth quarter, it declined due

to the global crisis (Kementerian Keuangan Republik Indonesia, 2009). Meanwhile, from 2009 to 2019, the economic growth graph consistently increased.

Tax Revenue and State Expenditure

Tax revenue has a positive impact on government spending in accordance with the Theory of Tax Expenditures proposed by Buchanan, Wagner and Friedman (YEAR). Abdurashed (2017) stated that increased tax revenue allows the government to raise spending and finance development due to the availability of funds. Previous research shows that tax revenue influences government spending both in the short and long term (Mohanty & Mishra, 2017). Furthermore, Ndubuisi, Ezeokwelum and Maduka (2020) stated that excise and VAT have a positive and significant impact on Nigerian government spending. Therefore, the hypothesis is as follows:

H1: Tax revenue has a positive effect on state expenditure.

Based on the Tax Expenditure Hypothesis formulated by Peacock and Wiseman (1979), government spending during an economic crisis can increase the amount of permanent income (Mohanty & Mishra, 2017). Therefore, the future benefits of government investment are expected to increase tax revenue. Government spending affects government revenue in the long-term in Nigeria (Abdurashed 2017) and affects tax revenue in Indonesia (Kurniawan, Sari, and Irmawati 2020). Therefore, the hypothesis is as follows:

H2: State expenditure positively affects tax revenue.

The fiscal synchronization theory proposed by Musgrave (1966) reported that tax revenue is assumed to have a two-way causality in terms of state spending because the government makes decisions related to these two components simultaneously (Mohanty & Mishra, 2017). The government is the economic policymaker of a country; therefore, every decision has an interrelated impact on tax revenue. According to Pantamee, Yola and Mas'ud (2020), the higher the government spending, the greater the tax revenue obtained. There is a two-way causal correlation between tax revenue and government spending (Maknun 1995; Thanh and Lien 2017). Therefore, the hypothesis is as follows:

H3: Tax revenue and government expenditure show a two-way causality.

Tax Revenue and Economic Growth

The relationship between tax revenue and economic growth is described in the Endogenous Growth Theory. As the formulators of the theory, Romer & Romer (2014) stated that tax revenue activities have a significant influence on economic development. The findings of Roşoiu (2015) indicate that tax revenue affects GDP. The research by Thanh & Lien (2017) on 82 developed and developing countries indicate that tax revenue always positively influences economic growth. Therefore, the hypothesis is as follows:

H4: Tax revenue has a positive effect on economic growth.

Keynes's General Theory (1936) explains the relationship between economic growth and tax revenue through five main views, namely, the rejection of loan interest rates, future uncertainty, liquidity preference theory, determinants of real wages and rejection of the price system (Palley, 2017). Economic growth has increased the real impact of imposing taxes (Wijayanti, 2015). Several preliminary research studies conclude that economic growth positively affects tax revenue (Gunawan and Sukartha 2016; Muttaqin and Halim 2020). Therefore, the hypothesis is as follows:

H5: Economic growth has a positive effect on tax revenue.

The two-way causality between the components of tax revenue and economic growth supports Keynes's and Romer and Romer's theories. Tax is a crucial component of a country's fiscal policy; therefore, its existence affects economic development (Chigbu et al., 2012). According to Wullur, Koleangan and Niode (2019), economic growth stimulates an increase in the income of a region. Agunbiade and Idebi (2020) found a two-way causality relationship between corporate taxes and economic growth in Nigeria. Therefore, the hypothesis is as follows:

H6: Tax revenue and economic growth show a two-way causality.

State Expenditure and Economic Growth

The essence of the General Theory formulated by Keynes is that government spending positively impacts economic growth. Government spending is considered effective to promote economic growth when financial resources are maintained and not controlled by the private sector (Kimaro, Keong and Sea, 2017). Previous research proved that government spending drives economic growth (Galal and Mostafa, 2021; Mandala, 2020; Roşoiu, 2015). Maulid et al. (2021) showed the existence of a significant positive effect caused by personnel and goods expenditure on economic growth. Therefore, the hypothesis is as follows:

H7: State expenditure positively affects economic growth.

Economic growth significantly influences government spending according to Wagner's Law, which was formulated in 1883 (Sukartini & Saleh, 2012). The increase in the size of the government's economy is in line with the rise in its per capita income. According to Gurdal, Aydin and Inal (2020), a country with a large economy requires massive expenditure financing. Sukartini and Saleh (2012) stated that an increase in people's per capita income promotes government spending. Irandoust's (2019) research on OECD countries proved that economic growth drives government spending. Therefore, the hypothesis is as follows:

H8: Economic growth positively affects state expenditure.

Several research studies examined the two-way causality relationship between government spending and economic growth using Wagner's Law and Keynes's Theory (Irandoust, 2019; Solikin, 2018). A two-way causality relationship between government spending and economic growth was proven by Gurdal et al. (2020) and Babajide et al. (2020). Therefore, the hypothesis is as follows:

H9: State expenditure and economic growth show a two-way causality.

Inflation and Tax Revenue

Based on the General Theory proposed by Keynes, inflation significantly declines economic growth due to a decrease in income. According to Triastuti and Pratomo (2016), an increase in inflation reduces tax revenue, which means that there is an inverse relationship between both parties. This is also in line with Faridyan's (2019) findings, which stated that inflation has a significant negative impact on VAT in Indonesia. Therefore, the hypothesis is as follows:

H10: Inflation has a negative effect on tax revenue.

The relationship between tax revenue and inflation can be explained through Keynes's Theory, which states that fiscal policy affects inflation. Government policies regulating state spending and tax revenue impact shifting total demand and price balances, thereby driving changes in the prices of goods and services (Maski, 2012). Therefore, inflation can be overcome in the short term through monetary policy, while fiscal policy arrangements, such as tax revenue and government spending, are urgently needed (Opriyanti, 2017). Previous research indicated that tax revenue has a positive and significant impact on inflation in Indonesia (Surjaningsih et al., 2012). Therefore, the hypothesis is as follows:

H11: Tax revenue positively affects inflation.

Keynes's theory describes the relationship between inflation and tax revenue without explaining the two-way causality relationship. Inflation has a widespread impact on industrialized and developing countries, such as a decrease in national income, which triggers a reduction in tax revenue. According to Tanzi (1977), inflation is triggered by an increase in national income due to an elastic tax system and the government's delay in collecting taxes. Maulia et al. (2018) stated that income tax and VAT have a short-term effect on the inflation rate. Wang & Han (2018) reported that government taxation promotes inflation, which does not increase tax. Therefore, the hypothesis is as follows:

H12: Inflation and tax revenue have a two-way causality.

Inflation and State Expenditure

One type of elaboration of Keynes's concept is that inflation affects government spending. Chowdhury (2002) stated that high inflation negatively affects economic growth. This condition prompted the government to intervene in policies to reduce inflation, such as decreasing government spending. This opinion is supported by Asahdi et al. (2015) and Salim (2019). Therefore, the hypothesis is as follows:

H13: Inflation has a negative effect on state expenditure.

George-Anokwuru and Ekpenyong (2020) stated that supporters of Keynes's theory assume that spending is a macroeconomic stabilizer. Meanwhile, government intervention in increasing state spending triggers inflation, which leads to a rise in prices of goods and services. This is in accordance with Bashir et al. (2011), Maski (2012) and AL-Mutairi, Al-Abduljader and Naser (2020). Therefore, the hypothesis is as follows:

H14: State expenditure has a positive effect on inflation.

Inflation affects public spending decisions, which exacerbates inflationary pressures, as Keynes's theory suggests (Dada 2018). Furthermore, an increase in government spending significantly impacts aggregate demand, thereby leading to a rise in the prices of goods and services. This inflationary condition can be re-suppressed, supposing the government controls its spending. Previous research proved a two-way causal relationship between inflation and government spending (Ezirim, Muoghalu and Elike 2008; Starr et al. 1984; Magazzino 2011; Amuka, Ezeoke and Asogwa 2016). Therefore, the hypothesis is as follows:

H15: Inflation and state expenditure have a two-way causality.

Inflation and Economic Growth

The relationship between inflation and economic growth is inseparable from Keynes's theory. Inflation is one of the government's monetary policies to influence the country's economic conditions. Kennedy (2018) stated that government intervention in raising the price of goods and services has a significant decline in economic conditions. Van Dinh (2020) also supported Keynes's theory by stating that the relationship between inflation and economic growth is not linear. The negative relationship between inflation and economic growth has been proven in previous research (Barro 2013; Islamiah 2015; Mandala 2020; Sujianto and Azmi 2020; Ahmmed et al. 2020). Therefore, the hypothesis is as follows:

H16: Inflation has a negative effect on economic growth.

The Quantity Theory (Astiyah, 2010) explains the effect of economic growth on inflation. Economists that agree with Fisher stated that the velocity of the money supply is in line with people's real income. Economic size is a reflection of growth, which has an impact on an increase in long-term demand (Haryati et al., 2014). According to Fisher (1930) and preliminary research, the increase in demand which exceeds production capacity causes inflation (Bashir et al. 2011; AL-Mutairi, Al-Abduljader and Naser 2020; Ahmmed et al. 2020). Therefore, the hypothesis is as follows:

H17: Economic growth has a positive effect on inflation.

The bidirectional causality between inflation and economic growth supports Keynes's and Fisher's Theories. Low inflation encourages economic growth, which triggers inflation due to the increase in aggregate demand of the community (Maqrobi, 2011). Furthermore, the conclusions of previous research provide support for a two-way causality between inflation and economic growth (Bashir et al., 2011; Maknun, 1995; Sriyalatha and Torii, 2019). Therefore, the hypothesis is as follows:

H18: Inflation and economic growth have a two-way causality.

Methodology

This is a quantitative study aimed to determine the tax revenue, state expenditure, inflation, and economic growth in Indonesia from 1973 to 2019. Data on tax revenue, state expenditure, and GRDP were obtained from the websites of the Ministry of Finance, Bank Indonesia and the Central

Statistics Agency, transformed in the form of natural logarithms and processed using multivariate analysis.

The VECM model is presented in formula as follows:

$$\Delta Y_t = \pi Y_{t-1} + \sum_{l=1} \Delta r_l Y_{t-1} + \varepsilon_t \quad (1)$$

Where: Δ – operating differencing; Y_{t-1} – vector of endogenous variables with the 1st lag of size $n \times 1$; ε_t – residual vector of size $n \times 1$; π – integration coefficient matrix; r_l – matrix of size $(n \times n)$ 1st endogenous coefficient.

The Granger causality test was conducted to determine whether the condition of a variable in the past affects the present ones. The testing method consists of comparing the value of the F-statistics with the F table. The statistical F-value, which is higher than the F-table indicates, represents the presence of a causality between variables.

Results and discussion

Determination of the significance of the relationship between variables in the short and long term is conducted by first determining the t-table equal to 1,974. The value that ranges from -1.974 to 1.974 is the area for rejection of the hypothesis. Table 7 shows the results of the VECM calculation between the variables of Tax Revenue, State Expenditure, Inflation, and GDP.

Table 1. Long-Term Relationship between Taxes, Expenditure, Inflation, and GDP

VARIABLE		COEFFICIENT	STD ERROR	T-STATISTIC	CONSTANT	DESCRIPTION
Endogenous	Exogenous					
Tax	Expenditure	-3,9136	0,4882	-8,0149	0,18701	Significant
Expenditure	Tax	-0,2555	0,0795	-3,2138	-0,04778	Significant
Tax	GDP	-2,2026	0,3081	-7,1477	0,08386	Significant
GDP	Tax	-0,4539	0,1781	-2,5480	-0,03807	Significant
Expenditure	GDP	-0,5628	0,0520	-10,806	-0,02139	Significant
GDP	Expenditure	-1,7767	0,1849	-9,6066	0,03801	Significant
Inflation	Tax	0,06932	0,0116	5,93534	-0,06426	Significant
Tax	Inflation	14,4242	4,1996	3,43460	-0,92703	Significant
Inflation	Expenditure	0,27132	0,0399	6,78618	-0,064509	Significant
Expenditure	Inflation	3,68562	2,3406	1,57465	-0,2377	Insignificant
Inflation	GDP	0,15270	0,0222	6,87062	-0,05770	Significant
GDP	Inflation	6,54851	4,6204	1,41730	-0,37785	Insignificant

Source: Processed Research Data (2021).

$$\Delta Expenditure = -0.18701 + 3.9136(\Delta Tax)_{it-1} \quad (2)$$

Equation 2 shows that an increase in tax revenue by 1% leads to a rise in state expenditure by 3.9136, which also proves the first hypothesis. These results align with Ndubuisi et al.'s (2020) and Nurzen's (2016) findings. Tax revenue is the main source of income for the Indonesian government because it is used to finance administrative activities and national development needs (Sudibyo and Bawono 2016). The increase in tax revenue allows the government to carry out state spending.

$$\Delta Tax = 0.04778 + 0.2555(\Delta Expenditure)_{it-1} \quad (3)$$

Equation 3 shows that an increase in state expenditure by 1% leads to a rise in tax revenue by 0.2555%, which proves the second hypothesis. These results are in accordance with Abdurashed

(2017), Kithinji (2020), and Kurniawan et al. (2020), who state that government spending on goods, services and capital expenditures causes an increase in VAT and income tax for the private sector. The increase in personnel spending impacts the rise in the income tax imposed on State Civil Apparatus and VAT on goods and services.

$$\Delta GDP = -0.08386 + 0.2026(\Delta Tax)_{it-1} \quad (4)$$

Equation 4 shows that every 1% increase in tax revenue leads to a rise in economic growth by 0.2026%, which proves the fourth hypothesis is accepted in the long term. This is evidence of the government's positive performance as an agent towards its principals. The results are also in line with Takumah & Iyke (2017) and Thanh & Lien (2017).

$$\Delta Tax = 0.03807 + 0.4539(\Delta GDP)_{it-1} \quad (5)$$

Based on Equation 5, every 1% increase in economic growth leads to a rise in tax revenue by 0.4539%, proving the fifth hypothesis. This conclusion is in line with Faridyan (2019), Ranatarisza & Arrendamento (2019) and Triastuti & Pratomo (2016). This research also provides support for Keynes's theory.

$$\Delta GDP = -0.02139 + 0.5628(\Delta Expenditure)_{it-1} \quad (6)$$

Equation 6 shows that every 1% increase in state expenditure leads to a rise in economic growth by 0.5628%. This is evidence of the acceptance of the 7th hypothesis. It is also in accordance with Galal & Mostafa (2021), Kimaro et al. (2017), Mandala (2020), and Roşoiu (2015). These results support Keynes's theory and evidence of the government's positive performance towards its principals.

$$\Delta Expenditure = -0.03801 + 1.7767(\Delta GDP)_{it-1} \quad (7)$$

Equation 7 shows that every 1% increase in economic growth leads to a rise in state spending by 1.7767%, which proves the acceptance of the 8th hypothesis. This is in line with the results of Abustan & Mahyuddin (2009), Irandoust (2019), and Sukartini & Saleh (2012) on the use of Wagner's Law in Indonesia. The increasing economic growth and the complex needs of the community promote the government to make state expenditure to serve the interests of the community.

$$\Delta Tax = 0.06426 - 0.06932(\Delta Inflation)_{it-1} \quad (8)$$

Equation 8 shows that every 1% increase in inflation leads to a decrease in tax revenue by 0.06932%, which proves the acceptance of the tenth hypothesis. This is in line with Faridyan (2019), Ranatarisza & Arrendamento (2019) and Triastuti & Pratomo (2016) on Keynes's theory. This condition was evident when Indonesia's inflation spiked sharply during the 1998 economic crisis, thereby leading to a decline in tax revenue in the second quarter. Furthermore, when the global crisis hit the world and impacted rising inflation in 2009, tax revenue also declined in the same year.

$$\Delta Inflation = 0.92703 - 14.4242(\Delta Tax)_{it-1} \quad (9)$$

Equation 9 shows that every 1% increase in tax revenue leads to a decrease in inflation by 14.4242%, thereby rejecting the eleventh hypothesis. This result is in accordance with Bashir et al. (2011) on government revenue in Pakistan and tax function according to Bawono & Setyadi (2020) in the field of regulation and stabilization. The government uses tax regulations to slow down inflation

and stabilize economic conditions. Inflation that is too high can be reduced by increasing tax rates, thereby decreasing the amount of money circulating in the community.

$$\Delta Expenditure = 0.064509 - 0.27132(\Delta Inflation)_{it-1} \quad (10)$$

Equation 10 shows that every 1% increase in inflation leads to a decrease in state spending by 0.27132%, which proves the acceptance of the thirteenth hypothesis. The results align with Asahdi et al. (2015) and Salim (2019). According to Salim (2019), economic growth is mediated by the negative impact of inflation on capital expenditure.

$$\Delta Inflation = 0.2377 - 3.68562(\Delta Expenditure)_{it-1} \quad (11)$$

Based on equation 11, every 1% increase in state expenditure causes a decrease in inflation by 3.68562%. It can be interpreted that in the long term, state expenditure has a negative effect on inflation and insignificant; therefore, the fourteenth hypothesis was rejected. The results are in line with George-Anokwuru & Ekpenyong (2020) stating that, in the long-term, state spending has no impact on inflation in Nigeria. State spending is a government tool used for macro stability in addition to tax revenues. Indonesia's fluctuating and rising inflation has led to the government's focus on reducing it when the figure has touched 5% (Hermansyah et al. 2020). This causes government policies to be pursued to tackle inflation, including state spending.

$$\Delta GDP = 0.05770 - 0.15270(\Delta Inflation)_{it-1} \quad (12)$$

Equation 12 shows that every 1% increase in inflation leads to a decrease in economic growth by 0.15270%. This proves that in the long-term, inflation has a negative effect on economic growth, therefore, the sixteenth hypothesis is accepted. The results are in line with Ahmmed et al. (2020), Islamiah (2015), Mandala (2020) and Sujianto & Azmi (2020). The decline in inflation impacts the affordable price of goods and services. This condition stimulates the public to spend their money, thereby increasing income in the private sector.

$$\Delta Inflation = 0.37785 - 6.54851(\Delta PDB)_{it-1} \quad (13)$$

Equation 13 shows that for every 1% increase in economic growth, there is a decrease in inflation by 6.54851%. This means that in the long run, economic growth has a negative effect on inflation, which is insignificant, therefore, the seventeenth hypothesis is rejected. This is in accordance with Mehrara & Sujoudi (2015).

Granger Causality

The Granger causality test serves to determine the causal relationship simultaneously between endogenous variables. The lag length used is in accordance with the optimum lag, which equals 7 with a significance level of 5%. A probability value of less than 5% means that there is a causal relationship between variables, while when it is less than 5% it means that there is no causal relationship.

Table 2. Granger Causality Test Results

NULL HYPOTHESIS:	OBS	F-STATISTIC	PROB.
GDP does not granger cause expenditure	181	11.3732	1.e-11
Expenditure does not granger cause GDP		1.58760	0.1423
Inflation does not granger cause expenditure	181	3.21963	0.0032
Expenditure does not granger cause inflation		1.82852	0.0849
Tax does not granger cause expenditure	181	3.58331	0.0013
Expenditure does not granger cause tax		2.37523	0.0244

NULL HYPOTHESIS:	OBS	F-STATISTIC	PROB.
Inflation does not granger cause GDP	181	1.08038	0.3782
GDP does not granger cause inflation		4.96326	4.e-05
Tax does not granger cause GDP	181	2.26367	0.0317
GDP does not granger cause tax		3.75081	0.0008
Tax does not granger cause inflation	181	1.78832	0.0927
Inflation does not granger cause tax		2.40112	0.0229

Source: Processed Research Data (2021).

Table 2 shows that inflation affects state expenditure, therefore, the fifteenth hypothesis is rejected. However, the third hypothesis is accepted because there is a two-way relationship between tax revenue and state expenditure. There is a simultaneous one-way relationship that runs from economic growth to state spending; hence, the ninth hypothesis is rejected. The twelfth hypothesis is also rejected because a simultaneous one-way relationship runs from inflation to tax revenue. Economic growth affects inflation, therefore, the eighteenth hypothesis is rejected. Meanwhile, the sixth hypothesis is accepted because there is a simultaneous causal relationship between tax revenue and economic growth.

The two-way causality between tax revenue and state expenditure is a support for the Fiscal Synchronization Theory initiated by Musgrave (1966). The government acts as a unit with interrelated functions; therefore, the policies it initiates in the field of tax revenue and state expenditure influence each other. These results are in accordance with Ewing & Payne (1998), Pantamee et al. (2020) and Thanh & Lien (2017).

The existence of a two-way causality between tax revenue and economic growth supports the theory that Romer (2014) and Keynes (1936) formulated. The results also support previous research conducted by Agunbiade & Idebi (2020), Chigbu et al. (2012) and Wullur et al., (2019). Tax revenue is the main source of state revenue; therefore, tax-related policies are crucial. The increase in tax revenue due to government policies in the field of taxation impacts increasing state revenue by the government to support national economic development. Furthermore, increased economic growth leads to a rise in people's income and taxes paid.

Conclusions

The effect and causality test results between the state expenditure, tax revenue, economic growth and inflation variables in Indonesia from 1973 -2019 show a causal relationship between state expenditure and tax revenue as well as tax revenue and economic growth. Meanwhile, state expenditure causes economic growth and not vice versa. This means the direction of the relationship between these three endogenous variables is positive, indicating that the government's efforts to carry out state expenditure successfully increase tax revenue. Conversely, an increase in tax revenue allows the government to make state expenditures, both in development and other activities, to improve people's economy, leading to increased economic growth. This indicates that the government must maintain the economic policy's strategy, especially during the COVID-19 pandemic, to restore the national economy.

Tests on the inflation variable of the other three endogenous show that inflation has a negative effect on tax revenue, state spending and economic growth. However, when inflation is treated as an exogenous variable, it is negatively affected by tax revenue instead of the other two. The Granger causality test also shows that inflation causes state expenditure and tax revenue, not vice versa. Testing the inflation variable with the economic growth indicates that inflation is caused by economic growth and does not apply the other way around. This means that it is a matter of concern for the government, hence, they need to suppress it by ensuring stable economic growth.

Indonesia and other developing countries must endeavor to recover their economies significantly affected by the pandemic. Therefore, it is necessary to pay attention to potential sectors suitable for the climate, such as the agricultural or animal husbandry sector. This research uses variables that have been examined previously through the use of accounting data published by the

Ministry of Finance, Bank Indonesia and the Central Statistics Agency. It is possible to conduct further research with different variables using state debt variables, which can be investigated for their influence and causality on economic growth, specifically during the pandemic.

This study has some limitations, including the CPI data from 1973 to 1989 that does not reflect the CPI for all provinces in Indonesia. This is also an opportunity for researchers to further examine the effect or causality between inflation variables, economic growth or other variables with the object of research being the district or province.

Acknowledgements

The authors would to thank Mr. Oman Rusmana, Mrs. Siti Maghfiroh, Mrs. Negina Kencono Putri, the editor and two anonymous reviewers.

References

1. Abdulrasheed, Balogun. 2017. "Causality between Government Expenditure and Government Revenue in Nigeria." *Asian Journal of Economics and Empirical Research* 4 (1): 91–98. <https://doi.org/10.20448/journal.501.2017.42.91.98>.
2. Abustan, Abustan, and Mahyuddin Mahyuddin. 2009. "Analisis Vector Auto Regressive (Var) Terhadap Korelasi Antara Belanja Publik Dan Pertumbuhan Ekonomi Di Sulawesi Selatan, Tahun 1985-2005." *Jurnal Ekonomi Pembangunan: Kajian Masalah Ekonomi Dan Pembangunan* 10 (1): 1. <https://doi.org/10.23917/jep.v10i1.805>.
3. Agunbiade, Olabode, and Alesanmi Abraham Idebi. 2020. "Tax Revenue and Economic Growth Nexus: Empirical Evidence From the Nigerian Economy." *European Journal of Economic and Financial Research* 4 (2): 18–41. <https://doi.org/10.46827/ejefr.v4i2.832>.
4. Ahmmed, Monir, Md. Nezum Uddin, Md. Rafiqul Islam Rafiq, and Mohammed Jashim Uddin. 2020. "Inflation and Economic Growth Link – Multi-Country Scenario." *International Journal of Economics and Financial Issues* 10 (4): 47–53. <https://doi.org/10.32479/ijefi.9942>.
5. Al-Abbadi, Hanan A.D, and Shatha Abdul Khaliq. 2017. "The Causal Relationship between Sales Tax Revenue and Economic Growth in Jordan Hanan." *International Research Journal of Applied Finance* VIII (3): 170–77.
6. AL-Mutairi, Abdullah, Sulaiman Al-Abduljader, and Kamal Naser. 2020. "Determinants of Inflation in Kuwait1." *The Journal of Developing Areas* 54 (3). <https://doi.org/10.1353/jda.2020.0034>.
7. Amuka, Joseph I., Miracle O. Ezeoke, and Fredrick O. Asogwa. 2016. "Government Spending Pattern and Macroeconomic Stability: A Vector Autoregressive Model." *International Journal of Economics and Financial Issues* 6 (4): 1930–36.
8. Asahdi, Abubakar Hamzah, and Said Musnadi. 2015. "Faktor-Faktor Yang Mempengaruhi Pengeluaran Pemerintah Indonesia." *Jurnal Ilmu Ekonomi* 3 (2): 65–73. <http://prodipps.unsyiah.ac.id/Jurnalnie/images/Jurnal/2.vol1.no2/3.16.28.hismendi.pdf>.
9. Astiyah, Suseno Siti. 2010. "Inflasi Suseno Siti Astiyah." *Bank Indonesia* 22 (22): 1–68.
10. Atmadja, Adwin S. 1999. "Inflasi Di Indonesia : Sumber-Sumber Penyebab Dan Pengendaliannya." *Jurnal Akuntansi Dan Keuangan* 1 (1): 54–67.
11. Babajide, Abiola Ayopo, Funso Abiodun Okunlola, Emeka Nwuba, and Adedoyin Isola Lawal. 2020. "Wagner Proposition in Nigeria: An Econometric Analysis." *Heliyon* 6 (8): e04680. <https://doi.org/10.1016/j.heliyon.2020.e04680>.
12. Barlas, Ahmad Walid. 2020. "The Impact of Government Expenditure on Economic Growth in Afghanistan." *Journal of Economics and Business* 3 (2). <https://doi.org/10.31014/aior.1992.03.02.234>.
13. Barro, Robert J. 2013. "Inflation and Economic Growth." *Annals of Economics and Finance* 14 (1): 121–44. <https://doi.org/10.1086/259360>.
14. Bashir, Mr Furrakh, Ms Kalsoom Yasin, Mr Usman Khursheed, Mr Jahanzeb Khan, and Mr Muhammad Junaid Qureshi. 2011. "Determinants of Inflation in Pakistan: An Econometric Analysis Using Johansen Co-Integration Approach." *Australian Journal of Business and Management Research* 1 (5): 71–82. <http://ajbmr.com/articlepdf/ajbmr/v01n0509.pdf>.
15. Bawono, Icut Rangga, and Erwin Setyadi. 2020. *Panduan Penggunaan Dan Pengelolaan Dana Desa*. Jakarta: Grasindo.
16. Chigbu, E.E, Akujuobi, Linus Eze, Appah, and Ebimobowei. 2012. "An Empirical Study on the Causality between Economic Growth and Taxation in Nigeria." *Current Research Journal of Economic Theory* 4 (2): 29–38.
17. Chowdhury, Girijasankar Mallik Anis. 2002. "Inflation, Government expenditure and Real Income in the Long-Run." *Journal of Economic Studies* 29 (3): 240–50. <https://doi.org/http://dx.doi.org/10.1108/01443580210433606>.
18. Dada, Matthew Abiodun. 2018. "Government Expenditure Growth and Inflation in Nigeria ; Any Evidence of Causality ?" 22 (6).
19. Delingga, Redza, and Taufiq Marwa. 2016. "Kausalitas Antara Penerimaan Daerah Dan Pertumbuhan Ekonomi Di

- Kota Lubuklinggau” 14 (25): 59–63.
20. Dinh, Doan Van. 2020. “Impulse Response of Inflation to Economic Growth Dynamics: VAR Model Analysis.” *Journal of Asian Finance, Economics and Business* 7 (9): 219–28. <https://doi.org/10.13106/JAFEB.2020.VOL7.NO9.219>.
 21. Ewing, Bradley, and James Payne. 1998. “Government Revenue-Expenditure Nexus: Evidence from Latin America.” *Journal of Economic Development* 23 (2): 57–69.
 22. Ezirim, Chinedu, Michael Muoghalu, and Uchenna Elike. 2008. “Inflation versus Public Expenditure Growth in the U.S.: An Empirical Investigation.” *North American Journal of Finance and Banking Research* 2 (2): 26–40.
 23. Faridyan, Kevin Fajrie. 2019. “Pengaruh Inflasi Dan Nilai Tukar Rupiah Terhadap Penerimaan Pajak Pertambahan Nilai Pada Periode 1982-2018.” Universitas Brawijaya.
 24. Galal, Mohammed, and Abdallah Mostafa. 2021. “The Causal Link Between Government Expenditure And Economic Growth In Egypt Over The Period From 1952,” no. February. <https://doi.org/10.31838/srp.2021.3.38>.
 25. George-Anokwuru, Chioma Chidinma, and Bosco Ito Ekpenyong. 2020. “Government Expenditure and Inflation in Nigeria.” *Journal of Economics and Management Sciences* 3 (2): p29. <https://doi.org/10.30560/jems.v3n2p29>.
 26. Gunawan, Andri, and I Made Sukartha. 2016. “Pengaruh Persepsi Tax Amnesty , Pertumbuhan Ekonomi Dan Tranformasi Kelembagaan Direktorat Jendral Pajak Pada Penerimaan Pajak.” *Issn: 2302-8556 17* (E-Jurnal Akuntansi Universitas Udayana): 2036–60.
 27. Gurdal, Temel, Mucahit Aydin, and Veysel Inal. 2020. *The Relationship between Tax Revenue, Government Expenditure, and Economic Growth in G7 Countries: New Evidence from Time and Frequency Domain Approaches. Economic Change and Restructuring*. Springer US. <https://doi.org/10.1007/s10644-020-09280-x>.
 28. Handayani, Novia Nur. 2019. “Analisis Variabel Yang Mempengaruhi Tingkat Inflasi Di Indonesia Periode 1999-2018.” *Skripsi*.
 29. Haryati, Deni Sri, Nuzulia Intan Maulida, Ika Oktafianingsih, and Septi Diana Sari. 2014. “Analisis Inflasi Pra Dan Pasca Krisis Moneter Dalam Perekonomian Indonesia.” *Economics Development Analysis Journal* 3 (2): 393–401. <https://doi.org/10.15294/edaj.v3i2.3848>.
 30. Hermansyah, Deni Kamaludin Yusup, Mila Badriyah, Dedi Suyandi, and Asep Asryad. 2020. “Pengendalian Inflasi, Moneter, Dan Fiskal Dalam Perspektif Ekonomi Makro Islam.” *Ekonomica Sharia: Jurnal Pemikiran Dan Pengembangan Perbankan Syariah* 6 (2): 1–10. <https://doi.org/10.36908/esha.v6i2.209>.
 31. Irandoust, Manuchehr. 2019. “Wagner on Government Spending and National Income: A New Look at an Old Relationship.” *Journal of Policy Modeling* 41 (4): 636–46. <https://doi.org/10.1016/j.jpolmod.2019.02.003>.
 32. Islamiah, Nurhidayati. 2015. “Analisis Pengaruh Belanja Pembangunan/Modal Dan Tingkat Inflasi Terhadap Pertumbuhan Ekonomi Dan Penerimaan Pajak Di Indonesia.” *Jurnal Economix* 3 (1): 46–57.
 33. Isroah. 2013. *Perpajakan. Fakultas Ekonomi Universitas Negeri Yogyakarta*. Yogyakarta: Fakultas Ekonomi Universitas Negeri Yogyakarta.
 34. Kementerian Keuangan Republik Indonesia. 1998. “Nota Keuangan Dan Rancangan Anggaran Pendapatan Dan Belanja Negara 1998/1999.” Jakarta.
 35. ———. 2001. “Nota Keuangan Dan Undang-Undang Republik Indonesia Nomor 19 Tahun 2001 Tentang Anggaran Pendapatan Dan Belanja Negara Tahun Anggaran 2002.” Jakarta.
 36. ———. 2009. “Nota Keuangan Dan Anggaran Pendapatan Dan Belanja Negara Tahun Anggaran 2010.” Jakarta.
 37. Kennedy, Posma Sariguna Johnson. 2018. “Modul Ekonomi Makro.” *Universitas Kristen Indonesia*, 1–28.
 38. Kimaro, Edmund Lawrence, Choong Chee Keong, and Lau Lin Sea. 2017. “Government Expenditure, Efficiency and Economic Growth: A Panel Analysis of Sub Saharan African Low Income Countries.” *African Journal of Economic Review* 5 (2): 34–54.
 39. Kithinji, Angela Mucece. 2020. “The Nexus Between Government Expenditure and Taxation.” *International Journal of Research Publications* 43 (1): 1–16. <https://doi.org/100431122019878>.
 40. Kurniawan, Tria Sandi, Dyah Wulan Sari, and Dyah Reni Irmawati. 2020. “Analisis Pengaruh Realisasi Belanja Pemerintah Terhadap Penerimaan Pajak Di Indonesia.” *Indonesian Treasury Review: Jurnal Perbendaharaan, Keuangan Negara Dan Kebijakan Publik* 5 (3): 171–81. <https://doi.org/10.33105/itrev.v5i3.212>.
 41. Magazzino, Cosimo. 2011. “The Nexus Between Public Expenditure and Inflation in The Mediterranean Countries.” *Munich Personal RePEc Archive*. <http://mpra.ub.uni-muenchen.de/28493/>.
 42. Maknun, Mappaujung. 1995. “Hubungan Kausalitas Antara Inflasi Dan Pertumbuhan Ekonomi Di Beberapa Negara Asean.” *Hubungan Kausalitas Antara Inflasi Dan Pertumbuhan Ekonomi Di Beberapa Negara ASEAN* 10 (1): 67–80. <https://doi.org/10.22146/jieb.39927>.
 43. Mandala, Ratu Ahdini Magfuroh. 2020. “Inflation, Government Expenditure and Economic Growth in Indonesia.” *Jambura Equilibrium Journal* 2 (2): 109–18.
 44. Marseno, Bintang, and Erly Mulyani. 2020. “Pengaruh Pertumbuhan Ekonomi, Pendapatan Asli Daerah (PAD), Jumlah Penduduk Dan Luas Wilayah Terhadap Belanja Modal Pemerintah Daerah” 2 (4): 3452–67.
 45. Maski, Berto Muharman; Gozali. 2012. “Analisis Dinamis Pengaruh Instrumen Fiskal Terhadap PDB Dan Inflasi Di Indonesia.” *Jurnal Ilmiah Mahasiswa FEB*, no. Vol 1, No 2: Semester Genap 2012/2013.
 46. Maulia, Eva, Miftahuddin, and Hizir Sofyan. 2018. “Tax Revenue and Inflation Rate Predictions in Banda Aceh Using Vector Error Correction Model (VECM).” *IOP Conference Series: Materials Science and Engineering* 352 (1). <https://doi.org/10.1088/1757-899X/352/1/012056>.

47. Maulid, Lelly Cesarina, Icuk Rangga Bawono, and Yudha Aryo Sudibyo. 2021. "The Effect of Government Expenditure on Economic Growth in Indonesia." *Ekulibrium : Jurnal Ilmiah Bidang Ilmu Ekonomi* 16 (1): 24–38.
48. Mehrara, Mohsen, and Ahmad Sujoudi. 2015. "The Relationship between Money, Government Spending and Inflation in the Iranian Economy." *International Letters of Social and Humanistic Sciences* 51: 89–94. <https://doi.org/10.18052/www.scipress.com/ilshs.51.89>.
49. Muttaqin, Faisal, and Rizal Edy Halim. 2020. "The Effect of Economic Growth and Inflation on Tax Revenue: Analysis on Areas with Dominant Economic Activities in Agriculture, Plantation, and Fisheries Sectors" 135 (Aicmbms 2019): 27–33. <https://doi.org/10.2991/aebmr.k.200410.005>.
50. Ndubuisi, Chinedu Jonathan, Onyekachi Louis Ezeokwelum, and Ruth Onyinyechi Maduka. 2020. "Tax Revenue, Tax Reform and Government Expenditure: The Case of Nigerian Economy (1994 – 2017)." *Asian Journal of Economics, Business and Accounting* 18 (3): 1–12. <https://doi.org/10.9734/ajeba/2020/v18i330283>.
51. Nurzen, Miardi. 2016. "Pengaruh Pertumbuhan Ekonomi, Pendapatan Asli Daerah Dan Dana Alokasi Umum Terhadap Belanja Modal Di Kota Tomohon." *Jurnal Berkala Ilmiah Efisiensi* 16 (3).
52. Opriyanti, Reni. 2017. "Analisis Efektivitas Kebijakan Moneter Dan Kebijakan Fiskal Dalam Mengatasi Inflasi Di Indonesia." *Media Trend* 12 (2): 184. <https://doi.org/10.21107/mediatrend.v12i2.2942>.
53. Palley, Thomas. 2017. "The General Theory at 80: Reflections on the History and Enduring Relevance of Keynes' Economics." *Investigacion Economica* 76 (301): 87–101. <https://doi.org/10.1016/j.inveco.2017.12.003>.
54. Pantamee, Abdurrahman, Abdulsalim Yola, and Abdulsalam Mas'ud. 2020. "The Nexus between Tax Revenue and Government Expenditure in Nigeria; Evidence from Toda -Yamamoto Causality Test." *International Journal of Innovation, Creativity and Change* 11 (1): 458–72.
55. Ranatarisza, Mirza Maulinarhadi, and Mirza Yuni Arrendamento. 2019. "Does Inflation Affect on Tax Receipts of Article 21 Income Tax With Unemployment as an Intervening Variable?" *Advances in Economics, Business and Management Research* 1 (154): 204–9. <https://doi.org/https://dx.doi.org/10.2991/aebmr.k.201116.041>.
56. Ranjan Mohanty, Asit, and Bibhuti Ranjan Mishra. 2017. "Cointegration between Government Expenditure and Revenue: Evidence from India." *Advances in Economics and Business* 5 (1): 33–40. <https://doi.org/10.13189/aeb.2017.050105>.
57. Romer, Christina D, and David H Romer. 2014. "American Economic Association The Macroeconomic Effects of Tax Changes : Estimates Based on a New Measure of Fiscal Shocks The Macroeconomic Effects of Tax Changes : Estimates Based on a New Measure of Fiscal Shocks" 100 (3): 763–801.
58. Roşoiu, Iulia. 2015. "The Impact of the Government Revenues and Expenditures on the Economic Growth." *Procedia Economics and Finance* 32 (15): 526–33. [https://doi.org/10.1016/s2212-5671\(15\)01428-8](https://doi.org/10.1016/s2212-5671(15)01428-8).
59. Sahed, Abdelkader, Mohammed Mékidiche, and Hacén Kahoui. 2020. "The Relationship between Government Expenditures and Revenues in Algeria During the Period (1990-2019): Granger Causality Approach." *European Journal of Business and Management Research* 5 (5): 1–5. <https://doi.org/10.24018/ejbmr.2020.5.5.583>.
60. Salim, Agus. 2019. "Pengaruh Pendapatan Asli Daerah, Dana Perimbangan Dan Inflasi Terhadap Belanja Modal Dengan Pertumbuhan Ekonomi Sebagai Variabel Intervening (Studi Pada Kota Dan Kabupaten Di Provinsi Banten Untuk Periode Tahun 2015-2018)." *Jurnal Riset Akuntansi Tirtayasa* 04 (02): 164–79.
61. Solikin, Akhmad. 2018. "Pengeluaran Pemerintah Dan Perkembangan Perekonomian (Hukum Wagner) Di Negara Sedang Berkembang: Tinjauan Sistematis." *Info Artha* 2 (1): 65–89. <https://doi.org/10.31092/jia.v2i1.237>.
62. Sriyalatha, M. A. K., and Hiroshi Torii. 2019. "Impact of Fiscal Policy on Economic Growth: A Comparison between Singapore and Sri Lanka." *Kelaniya Journal of Management* 8 (1): 37. <https://doi.org/10.4038/kjm.v8i1.7559>.
63. Starr, Harvey, Francis w Hoole, Jeffrey A Hart, and John R Freeman. 1984. "The Relationship between Defense Spending and Inflation." *Journal of Conflict Resolution* 28 (1): 103–20.
64. Sudibyo, Yudha Aryo, and Icuk Rangga Bawono. 2016. "Determinants of Effective Tax Rates in Indonesia." *Journal of Accounting Research* 19 (1): 51–64.
65. Sujianto, Agus Eko, and Muhammad Fajar Ulil Azmi. 2020. "Associative Study on Government Spending, Inflation, Trade Balance, and Gross Domestic Product." *Ekulibrium : Jurnal Ilmiah Bidang Ilmu Ekonomi* 15 (1): 27. <https://doi.org/10.24269/ekulibrium.v15i1.2363>.
66. Sukartini, Ni Made, and Samsubar Saleh. 2012. "Pengujian Hukum Wagner Dalam Perekonomian Indonesia Kajian Pengeluaran Pemerintah Pusat Dan Pemerintah Provinsi." *Bisnis Dan Ekonomi (JBE)* 19 (1): 1–24.
67. Surjaningsih, Ndari, G. A. Diah Utari, and Budi Trisnanto. 2012. "Dampak Kebijakan Fiskal Terhadap Output Dan Inflasi." *Buletin Ekonomi Moneter Dan Perbankan* 14 (4): 389–420. <https://doi.org/10.21098/bemp.v14i4.365>.
68. Syaiful Maqrobi. 2011. "Kausalitas Tingkat Inflasi Dan Pertumbuhan Ekonomi Di Indonesia Periode 1998.1 – 2010.4." <https://lib.unnes.ac.id/5793/>.
69. Takumah, Wisdom, and Bernard Njindan Iyke. 2017. "The Links between Economic Growth and Tax Revenue in Ghana: An Empirical Investigation." *International Journal of Sustainable Economy* 9 (1): 34–55. <https://doi.org/10.1504/IJSE.2017.080856>.
70. Tanzi, Vito. 1977. "Inflation, Lags in Collection, and the Real Value of Tax Revenue." *IMF Staff Papers* 24 (1): 154–67.
71. Tenny, Lester Zomatic. 2021. "An Error Correction Model on the Impact of Government Expenditure on Economic Growth in Liberia from 1970 to 2020: Keynesian Economics Visited" 10 (1): 21–26.

- <https://doi.org/10.11648/j.ijber.20211001.13>.
72. Thanh, Su Dinh, and Nguyen Phuong Lien. 2017. "Tax Revenue, Expenditure, and Economic Growth: An Analysis of Long-Run Relationships." *Journal of Economic Development* 24 (3): 04–26. <https://doi.org/10.24311/jed/2017.24.3.02>.
 73. The World Bank. 2021. "The World Bank in Indonesia." World Bank Group. 2021. <https://www.worldbank.org/en/country/indonesia/overview#1>.
 74. Triastuti, Dian, and Dudi Pratomo. 2016. "Pengaruh Pertumbuhan Ekonomi, Belanja Pembangunan/Modal Dan Tingkat Inflasi Terhadap Penerimaan Pajak Daerah (Studi Pada Pemerintah Daerah Kota Bandung Periode 2007-2014)" 3 (1): 320–30.
 75. Wang, Shufeng, and Junwei Han. 2018. "Research on the Interference Trend of National Taxation with Price and Inflation." *Open Journal of Social Sciences* 06 (03): 156–67. <https://doi.org/10.4236/jss.2018.63011>.
 76. Wijayanti, Amalia. 2015. "Analisis Penerimaan Pajak Indonesia : " *Universitas Diponegoro Semarang*, 1–66.
 77. Wijayanti, Wahyu Kartika, and N. Y. Agus Budi. 2010. "Faktor-Faktor Yang Mempengaruhi Total Penerimaan Pajak Negara Dan Efektivitas Peraturan Perpajakan." *Media Ekonomi* 18 (1): 27–40.
 78. Wullur, Reizard O, Rosalina A.M Koleangan, and Audie O Niode. 2019. "Analisis Kausalitas Pendapatan Asli Daerah Dan Pertumbuhan Ekonomi Di Provinsi Sulawesi Utara Tahun 2001-2017." *Jurnal Berkala Ilmiah Efisiensi* 19 (03): 45–55.

Lelly Cesarina Maulid, Icuk Rangga Bawono, Yudha Aryo Sudibyo

Indonezijos mokesčių pajamų, valstybinių išlaidų, infliacijos, ekonominio augimo analizė tarp 1973 m. ir 2019 m.

Anotacija

Šio tyrimo tikslas - išanalizuoti priežastinį ryšį tarp mokestinių pajamų, valstybės išlaidų, infliacijos ir ekonomikos augimo Indonezijoje 1973-2019 m. laikotarpiu, kuriuos būtų galima panaudoti kuriant ateities Indonezijos viziją. Indonezija yra vertingas tyrimo objektas, nes jos ekonomika įspūdingai augo ir sugebėjo pakilti po Azijos ekonomikos krizės. Straipsnyje yra pateikiama trumpa tiriamuoju laikotarpiu vykdytos politikos apžvalga, kad būtų galima susipažinti su vyriausybės vykdoma politika. Siekiant atlikti išsamią analizę, buvo taikomi kiekybiniai metodai - vektoriaus klaidų korekcijos modelis ir Grangerio priežastingumo testas. Rezultatai parodė teigiamą ilgalaikį dvipusį priežastinį ryšį tarp mokestinių pajamų ir valstybės išlaidų, taip pat mokestinių pajamų ir ekonomikos augimo. Tai rodo, kad Vyriausybės pastangos įgyvendinti valstybės išlaidas leido sėkmingai padidinti mokesťines pajamas. Ir atvirkščiai, mokestinių pajamų padidėjimas leidžia vyriausybei daryti valstybės išlaidas - tiek plėtrai, tiek kitoms veikloms - ir taip gerinti žmonių ekonomiką, o tai lemia didesnę ekonomiką augimą. COVID-19 pandemijos metu vyriausybė turi laikytis ekonominės politikos strategijos, kad atkurtų šalies ekonomiką, apsvarstydama galimus sektorius, kurie yra tinkami klimato sąlygomis, pavyzdžiui, žemės ūkio ar gyvulininkystės sektorius. Infliacijos testų rezultatai rodo, kad ši kintamąjį lemia ekonomikos augimas, o ne atvirkščiai, tačiau šis kintamasis daro neigiamą poveikį mokesťinėms pajamoms, valstybės išlaidoms ir ekonomikos augimui, todėl jį reikia slopinti, kad būtų užtikrintas stabilus ekonomikos augimas.

Lelly Cesarina Maulid, Student, Faculty of Economics and Business, Jenderal Soedirman University
E-mail: lealfarucan@gmail.com

Icuk Rangga Bawono, senior lecturer, Faculty of Economics and Business, Jenderal Soedirman University
E-mail: cukycutes@yahoo.com

Yudha Aryo Sudibyo, senior lecturer, Faculty of Economics and Business, Jenderal Soedirman University
E-mail: yudha.aryo@gmail.com

Lelly Cesarina Maulid, studentas, Jenderal Soedirman Universiteto ekonomikos ir verslo katedra
El. paštas: lealfarucan@gmail.com

Icuk Rangga Bawono, lektorius, Jenderal Soedirman Universiteto ekonomikos ir verslo katedra
El. paštas: cukycutes@yahoo.com

*Yudha Aryo Sudiby*o, lektorius, Jenderal Soedirman Universiteto ekonomikos ir verslo katedra
El. paštas: yudha.aryo@gmail.com



This article is an Open Access article distributed under the terms and conditions of the Creative Commons Attribution 4.0 (CC BY 4.0) License (<http://creativecommons.org/licenses/by/4.0/>).