Government Spending, Domestic Investment, Human Development Index and Indonesian Gross Domestic Product

Hadi Sumarsono[1]*, Lutfi Asnan Qodri[2], Putra Hilmi Prayitno[3]

[1] *Faculty of Economics and Business, Universitas Negeri Malang, Indonesia*
[2] *Faculty of Economics and Business, Universitas Brawijaya, Indonesia*
[3] *Faculty of Education, Universiti Kebangsaan Malaysia, Malaysia*

Article Info	Abstract
	This research investigates the linkage between government expenditure, domestic investment, national income, human development index, and economic growth in Indonesia during the period 2015-2020. This study applied the quantitative method with Common Effect Model, Fixed Effect Model, and Random effect Model to estimate the empirical model. The data in this research were gathered from these main sources, including Statistics Indonesia and the Indonesian Investment Coordinating Board. The classical assumption is also provided to meet the analysis criteria. The findings of the study indicate that government spending positively impacts Indonesian economic growth. Indeed, national income has a robust effect on economic growth. This study also confirms the crucial role in determining economic growth in Indonesia. Surprisingly, the human development index failed to support a robust spur to economic growth in Indonesia. These results contribute to the literature on economic growth and have tremendous implications for Indonesian policymakers to consider these findings.

Abstrak

Penelitian ini mengkaji keterkaitan antara pengeluaran pemerintah, penanaman modal dalam negeri, pendapatan nasional, indeks pembangunan manusia dan pertumbuhan ekonomi di Indonesia selama periode 2015-2020. Penelitian ini menggunakan metode kuantitatif dengan Common Effect Model, Fixed Effect Model dan Random effect Model untuk mengestimasi model empiris. Data dalam penelitian ini dikumpulkan dari sumber-sumber utama, termasuk Badan Pusat Statistik dan Badan Koordinasi Penanaman Modal. Asumsi klasik juga disediakan untuk memenuhi kriteria analisis. Temuan penelitian menunjukkan bahwa pengeluaran pemerintah berdampak positif terhadap pertumbuhan ekonomi Indonesia. Memang, pendapatan nasional memiliki efek yang kuat pada pertumbuhan ekonomi. Studi ini juga menegaskan peran penting dalam menentukan pertumbuhan ekonomi di Indonesia. Bagaimanapun, indeks pembangunan manusia gagal mendukung dorongan kuat untuk pertumbuhan ekonomi di Indonesia. Hasil ini berkontribusi pada literatur tentang pertumbuhan ekonomi dan memiliki implikasi yang luar biasa bagi pembuat kebijakan Indonesia untuk mempertimbangkan temuan ini.

* Corresponding Author.
hadi.sumarsono.fe@um.ac.id. Hadi Sumarsono

INTRODUCTION

Economic development has always been the basis of enhancing welfare in transition economies and has been linked with government policies (Cooper, 2020). In its development, Indonesia has passed several early economic growth and stabilization stages in the last ten years. Economic growth is a condition when the gross domestic product in a country increase compared to the population growth rate (Wahyuningrum & Soesilowati, 2021). Therefore, it is used as an indicator of the success of development in a nation's economy (Mubarak & Nugroho, 2020). The nation's economic development is essentially aimed at achieving public welfare through high economic growth. It is therefore, the occurrence of economic growth is the major part of development performance results owned by a country.

In addition to concerning economic growth, government spending is an instrument that the government uses to support growth (Sukrisna et al., 2018). Government expenditure is defined as the obligation of the central government, which is acknowledged as a deduction from the net worth consisting of Central Government spending and Transfers to Regions and Village Funds. In this case, the government gives each district or city authority to use these funds for the progress of each region. In accordance with the functional understanding, namely, the Central Government used to carry out public service functions, defense, security, economic, environmental protection, housing and public infrastructure, health, tourism, religious, education, and social protection functions (Setiawan et al., 2017).

To support for state spending, it cannot be separated from efforts to maximize the element of national income (Odunga et al., 2019). In general, national income comes from state revenues from tax and non-tax withdrawals. The framework of budget and expenditure mentioned that in the second semester of 2020, the Coronavirus-19 in Indonesia reached IDR 922.25 trillion or 54.25%, and state revenue and grants experienced a contraction in growth of negative 12.37% (yoy). In more detail, the realization of tax revenue and non-tax state revenue respectively reached IDR 710.98 trillion and IDR 208.81 trillion. As a result, the realization of tax revenues reached IDR 601.91 trillion or 50.21% of the APBN-Perpres 72/2020, while customs and excise revenue obtained IDR 109.06 trillion or 53.02% APBN-Perpres 72/2020, growing 3.71% (yoy). Although tax revenues, in general, continued to experience a deep contraction in July, personal income tax receipts still grew positively, and VAT improved. In addition, the manufacturing industry sector and the financial services and insurance sectors experienced improved performance.

Table 1. Growth of Gross Domestic Product and Investment in Indonesia 2016-2020

Year	Gross Domestic Product		Investment	
	Growth %	Value (billion IDR)	Domestic (billion IDR)	Foreign (million US$)
2016	5.03%	9.343.613,40	216.230.80	28.964.10
2017	5.07%	9.912.928.10	262.360.50	32.239.80
2018	5.17%	10.425.851.90	328.604.90	29.307.90
2019	5.02%	10.949.037.80	386.498.40	28.208.80
2020	-2.07%	10.722.422.70	413.535.50	28.666.30

Source: GDP and Investment Data from BPS 2020 publication

The standard of living of people in an area occurs in the long term slowly through the effect of increasing savings (investment) and population. Economic growth can be characterized by an increase in per capita income and the annual growth rate of GDP. High economic growth is needed to accelerate the growth of the national and regional economic structure towards a balanced and dynamic economy characterized by strong, advanced industry and resilient agriculture. Domestic investment, in this case, plays a pivotal role in the contraction of economic growth in Indonesia (Deng, 2021). The decline in economic engagement will also have an impact on the decline in production in various sectors such as manufacturing, construction, and others.

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In particular, domestic capital investment, as well as foreign investment, in this case, make a major contribution to the country's development, especially for emerging countries. The level of investment, both domestic investment and foreign investment in Indonesia, is provided in Table 1. Table 1 informs that the GDP rate in Indonesia has experienced an increasing trend, while in 2020, it decreased significantly to minus -2.07% due to the COVID-19 pandemic. The rate of investment has also diminished, as seen from the domestic investment, which increased from 2016 to 2020, while the foreign direct investment experienced a fluctuation during the period. However, FDI in 2020 has increased compared to the previous year. Economic growth is also inseparable from the support of human resources in an area (Malefane & Odhiambo, 2019). According to Ibar-Alonso et al. (2017), the human development index can improve the quality of health, education, and people's income. Therefore, the linkage between economic growth and human development is a two-way nexus, where economic growth can increase human development. However, on the contrary, the increase in human development makes it possible to increase economic growth (Abebe, 2021).

Concerning Indonesia, human resource is one of the most productive countries. From the age factor, most of Indonesia's population, or approximately 70% of them, are of productive age. In terms of employment, Indonesia has 118 million workforce (BPS, 2020). The huge population in the productive age group instead of the non-productive age group can promote advantages for the country's development, primarily in the economic sector. However, to take advantage of these conditions, the quality of human resources must be maximized, among others, by increasing the level of education for the productive age group for both rural and urban residents. Gasparri (2020) remarked that to acquire a decent job with high wages, a person needs adequate skills that can be accomplished through education. Brune et al. (2020) also argued that the formation of human capital through investment in education is the best way for economic growth.

Indonesia is one of the countries that places education as an important aspect of development (Benardin, 2010). This is evidenced by the various efforts made by the Indonesian government from the old order to the reform era. The 1945 Constitution clearly states about "educating the nation's life," which is related to education. The government's commitment to education enhancement is reflected in the education budget provided in the national budgeting. Government expenditure in the field of education is contained in Law No. 20 of 2003, which states that the education budget other is proposed to be a minimum of 20 percent of the national revenue and expenditure budget (APBN). Thus, developing human sources will beneficial in raising economic growth in Indonesia. It is therefore, this study aims investigate the linkage of government expenditure, domestic investment, national income, and human development index on economic growth in Indonesia.

The significant matter of this research is provided as follows. First, this study investigates the variables mentioned previously since there is a limitation study performed in Indonesian context. Second, the study in Indonesia is reasonable because it experienced remarkable changes due to Covid-19 pandemic and the changes of political and government policies. Third, this study provides a bride from preliminary studies that investigates separately toward this relationship. Lastly, this paper also provides new proxy variables for human development. The research of this paper is provided as follows. Section 1 deals with the background of the study and fundamental theories related to the variables involved. Section 2 concerns the methodology used to address the research purposes, followed by findings and discussion in Section 3. The last section provides the conclusion, implication and suggestions.

METHOD

This study applied a quantitative approach with inferential statistical analysis methods. The use of secondary data in the form of panel data. Data sources come from Statistics Indonesia (BPS) and the Investment Coordinating Board (BKPM). Secondary data in the form of publications in the form of documents, reports, or articles that have been previously available. The Eviews-11 application is adopted as a statistical tool. In addition, panel data regression analysis was used as an analytical tool. The equation of the panel data regression model is formulated with the model of Greene (2008) that can be seen in the following equation.

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GDRPit $= \beta 0 + \beta 1 GSit + \beta 2 NIit + \beta 3 DIit + \beta 4 HDIit + \varepsilon it$

Information:

GDRP	= Economic Growth (GDRP)
i	= Cities/Regencies in East Java
t	= 2015-2020
$\beta 0$	= Constanta
$\beta 1, \beta 2, \beta 3$	= Coefficient
GS	= Government Spending
NI	= National income
DI	= Domestic Investment
HDI	= Human development index
ε	= Error Term

Panel Data Regression Test

Common Effect Model (CEM), Fixed Effect Model (FEM) and Random effect Model (REM) are models that can be used in panel data regression analysis. Tests were also performed to select the three the models and it is to include the best and most appropriate model. The first step is to determine between the CEM and FEM, the Chow test must be provided with the providing hypothesis:

H0: Common effect model is applied
H1: Fixed effect model is applied

However, when the p-value < α, H0 is rejected, meaning to use fixed effect model. Hausman test should be performed when a fixed effect is selected. To determine the last model between fixed effect with random effect, then the Hausman test is carried out with the hypothesis below.

H0: Random effect model is applied
H1: Fixed effect model is applied

When the p-value < α, H0 is rejected, model fixed effect is the best to be adopted. The next step is hypothesis estimation. In doing so, the t-test is applied, which aims to know and understand how the influence and existing relationship of the independent variable partially with the dependent variable. Effects and relationships can be either significant or insignificant. The test criteria for the t-test are when the significance value of the t-test < alpha, there is an impact between the independent and the dependent variable and vice versa. Furthermore, F-test attempts to understand the influence and relationship of the independent variable simultaneously with the dependent variable. Again, effects and relationships can be either significant or insignificant. The criteria for testing the F-test is when F-count < alpha, then there is an influence between the independent variable and the dependent variable. In addition, when F-count > alpha, then there is no impact between the independent variable and the dependent variable Further stage is conducting R^2 test, which is intended to know the extent to which variations in the occurrence of a shift in the dependent variable can and can be performed by variations/changes in the independent variable. What value does the coefficient of determination have between zero and one $0 < R^2 < 1$.

Classical Assumption Test

Next, we also provided the classical assumption test, including multicollinearity and heteroscedasticity. As the determination of whether there are independent variables that have

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similarities or similarities to other independent variables, it can be done by using a multicollinearity test. The criteria for this test can be concluded that there is no multicollinearity if the condition index value is less than 15. A determination whether the residual value of the model under study has a constant and constant variance or not, a heteroscedasticity test must be carried out. The criteria for this test are that there is no heteroscedasticity if the probability value is higher than 0.05.

RESULTS AND DISCUSSION

The statistical analysis indicates that government spending has an influential and significant relationship to economic growth in Indonesia. The value of the coefficient of influence is 0.009. This explains that when government spending increases by one unit, it can affect an increase in economic growth by an average of 0.009 (see Table 2). This development should actually be a process of socio-economic change in society towards a better direction (Clark et al., 2021), among which is evenly distributed among them is regional economic development. Moreover, government spending can provide stability both in the fiscal and monetary sectors to achieve a balance of development to achieve significant economic growth (Aprina, 2014).

Table 2. Estimation Output

Variable	Coefficient	Std. error	t-statistic	Prob.
C	124066.3	137805.1	0.90	0.369
GS	0.0089049	0.0037045	2.40	0.017
NI	0.0000156	6.74e-06	2.32	0.021
DI	16.0727	2.395777	6.71	0.000
HDI	-1706.149	1945.177	-0.88	0.381

National spending is a form of realization of the government's work plan in implementing development (Presidential Regulation, 2021). The community can only feel the government's activities when the spending process is complete, such as spending on infrastructure provision, subsidies, education, and so forth. The spending mechanism must be structured in such a way that the spending process can be carried out in a controlled manner. The expenditure process cannot be separated from the budget planning process (Ma'ruf & Wihastuti, 2008). The mechanism of budgeting is very influential on the quality of spending. The performance-based budgeting system that is currently being implemented encourages the budgeting process to become more regular. Based on this system, every budget preparation must be prepared based on the output to be achieved. This output indicator is very useful for determining the effectiveness of spending. Therefore, the quality of output greatly determines the quality of shopping. The good output will provide good outcomes and benefits, while bad output will result in non-optimal results so that the spending spent is not effective.

The allocation of government spending is quite appropriate, which can affect the increase in national economic growth (Sukrisna et al., 2018). More government spending is allocated to capital spending on social infrastructure for education and health as well as routine spending (Muqorrobin & Soejoto, 2017). This kind of shopping is expected to provide as much benefit to the community as possible. Therefore, government policies to increase government spending should be more focused. Government spending is expected to be more focused on development plans and improvements in several economic sectors that the community hopes can enjoy regional development benefits. Policies in the management of government spending are expected to be in accordance with the needs of each region so that the allocation of government resources can follow what is currently needed by the community. This research is in line with Aprina (2014), which explained that government spending has a robust connectivity on economic growth because regional spending, which includes capital expenditure, is mostly allocated to the provision and improvement of infrastructure.

In addition, this statistical output shows that national income, in this case, positively influences national economic growth. The coefficient value of 0.000016 means the level of influence of

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national income on economic growth. When there is an increase in national income by one unit, it will drive on increasing economic growth by 0.000016. In simple terms, national income can be seen from the welfare of the people in a country. This also means that every citizen plays an active role in determining national income. The main purpose of national income is the welfare of all components in a country. In addition, national income has a close relationship with the state's decision-making to improve national economic conditions. The national income of a country is the accumulation of value from the final outcomes of goods and services provided in one year period.

The recording of national income uses a bookkeeping system that is used by the government to measure the level of economic activity of the country in a particular period of time. In this case, national income is allocated for several things that become national development priorities. One of the allocations for the allocation of national income is regional expenditure. According to Law no. 32 of 2004 concerning Regional Government, regional spending is the regional obligations acknowledged as a subtraction from the value of net assets in the relevant budget period. It is also stated that in the Regulation of the Minister the regional spending is proposed to finance the application of government affairs that are under the management of the province or regency/city, which covers mandatory, optional affairs and affairs that are managed in particular sections or fields that can be carried out jointly between the national and regional governments according to statutory regulations.

The development of each region is essentially a planned effort to produce government capacity with reliable and professional capabilities (Ma'ruf & Wihastuti, 2008). As an integral part of national development, which aims to enhance the standard of living and well-being of the people, development carried out in the regions, both at the provincial and district/city levels, must be carried out in an integrated, effective and efficient manner in order to achieve regional independence and equitable progress throughout the region. Furthermore, Domestic Investment has a significant influence. The results of the analysis of the coefficient value of the domestic investment variable are 16.07. This variable has the largest coefficient value compared to other variables. This remarks that when there is an incline of one unit level of Domestic Investment, it will have a positive effect of 16.07 on national economic growth.

The finding supports a prior study by Turok and McGrahanan (2019), which remarked that the domestic investment in that domestic capital is a productive source for the Indonesian people that can be used for economic development. The general objective is to increase national economic growth significantly. Capturing from the Harrod-Domar theory, it suggests that the model of economic growth is a development of Keynes's theory. The theory focuses on the decisive role of savings and industry in regional economic growth (Arsyad, 2004). The outputs of the paper on the classical flow theory of economic growth, Harrod-Domar's theory of economic growth (Turok & McGranahan, 2019) which remarked that investment is the key point in the process of economic growth and to expand an economy, investment is required as a supplemental stock of capital.

The unexpected finding is that Human Development Index, in this case, does not significantly affect national economic growth. The Human Development Index has a coefficient value of 1706.14. This can be interpreted that every one unit increase in HDI will have a decreasing impact on economic growth in Indonesia by 1706.14. This tends to be considered more contradictory when compared to the government's attempts to increase the level of education to raise the National Human Development Index. However, the overall distribution level of the Human Development Index nationally is considered to still be unequal, especially in the western part of Indonesia and eastern Indonesia (Wulandari et al., 2019).

This is due to the slowdown in the growth of the Human Development Index since the Covid-19 pandemic that has hit Indonesia since 2020. This impact is caused by a decrease in the adjusted average per capita expenditure. This indicator has decreased from 11.30 million rupiahs in 2019 to 11.01 million rupiahs in 2020. From an education perspective, in 2020, children aged seven years hope to enjoy 12.98 years of education or almost equivalent to the length of time. Time to complete education up to Diploma I. Wahyuningrum and Soesilowati (2021) explained that the human development index has a significant negative effect on unemployment. According to Ma (2002), it shows that the human development index has a significant negative effect on the unemployment rate.

CONCLUSIONS AND SUGGESTION

The empirical findings show that government spending has an influential and significant relationship to economic growth in Indonesia. It is therefore, providing an appropriate national budgeting framework will beneficial for national growth. In addition, the findings indicate that national income, in this case, has a positive and significant influence on national economic growth. Indeed, domestic investment also takes a crucial role in determining Indonesian economic growth. Surprisingly, the human development index does not impact national growth.

This study provides implications for the government as an organization that moves and must constantly adapt to the economic, social and political environment. However, with good planning and spending, the environment can be controlled. Any system change requires substantial resources, openness, and professionalism. These three things require massive efforts from every line of government. The four points above are some steps that we can take right now. Therefore, it must control spending because, basically, the money issued by the government is the people's money.

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