

Effect of Village Fund, Technology, and Democracy on Economic Growth

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ABSTRACT

This research aims to analyze the influence of village funds, technology and democracy on economic growth in Indonesia for the period 2015 to 2022. This research uses a quantitative approach using secondary data. Secondary data was obtained from various sources, including the Central Statistics Agency and Reports from the Ministry of Finance of the Republic of Indonesia. The data used in the data used is panel data, namely data from 33 provinces with the period used from 2015 to 2022 (264 samples). The analysis technique used is panel data regression analysis with the help of the EViews version 9 application. The research results show that technology variables influence economic growth. Meanwhile, the village funds, and democracy have no effect on economic growth. These findings can serve as input for the government to prioritize technological development and encourage the optimization of village fund utilization as well as the strengthening of democracy to contribute to economic growth.

Keywords: Economic Growth, Village Funds, Technology, Democracy

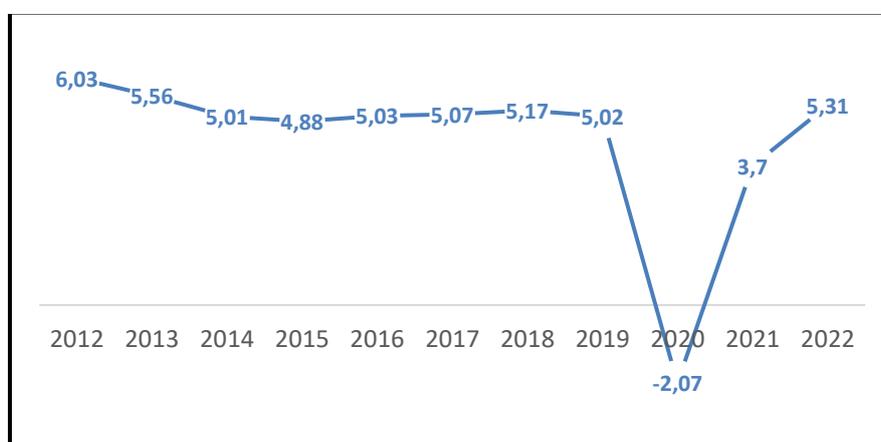


INTRODUCTION

Economic growth is a crucial macroeconomic indicator because it is used as an indicator to see the progress of a country (Wau et al., 2022). This indicator is needed to determine the success of national development that has been achieved in order to determine the direction of development in the future. National development is a continuous effort to improve human quality carried out in a sustainable manner. This business is carried out based on capabilities by utilizing advances in science and technology and paying attention to global development challenges (Alisman, 2016).

Based on the data from the Central Statistics Agency (BPS) in Figure 1, we can see a trend of rising and falling economic growth in Indonesia from 2012 to 2022. Economic growth in Indonesia tends to fluctuate during this period. In 2012, economic growth was 6.03%, then experienced a decline in the following years until 2015, namely 4.88%. The biggest decline occurred in 2020, reaching -2.07%, this was the impact of the rampant spread of the Covid-19 pandemic.

Figure 1. Indonesian Economic Growth



The Indonesian state has implemented decentralization to cover the village level. This reflects the government's belief that development at the village level can strengthen the foundations of the economy. In order to support rural development, the government allocates village fund expenditure in the State Revenue and Expenditure Budget (APBN). The Village Fund is a part of government expenditure that has been implemented since 2015.

Table 1. Total Village Funds

Year	Village Funds
2015	20.766.200.000
2016	46.982.080.000
2017	60.000.000.000
2018	60.000.000.000
2019	70.000.000.000
2020	72.000.000.000
2021	72.000.000.000

Source: Ministry of Finance of the Republic of Indonesia

The village fund budget always increases every year. Regions with a higher number of villages will receive a higher quantity of village fund allocation. However, many parties are of the opinion that the allocation of village funds is not fully in line with the vision of village funds (Ritonga et al., 2021). Like the previous study by Lewis (2015), which found that it was still not

appropriate for village funds to be allocated in the current arrangement, considering that there were still significant differences between rural areas.

Indicators of the success of development are divided into three main categories, namely: the monetary category which includes per capita income and the net economic welfare category; non-monetary categories which include social categories and quality of life indices; as well as a mixed category which includes the core Susenas categories and the human development index (Arsyad, 2010).

Increasing economic growth can be achieved through various strategies, including increasing productivity. Productivity is a key factor that significantly drives economic growth. National economic progress in the long term is very dependent on productivity as leverage (Munthe, 2021). The ability of society to respond to and utilize various factors that stimulate economic growth, both in terms of technology and institutions, will be greatly influenced by a high level of human development. This is the main factor in achieving high economic growth (Utami, 2020).

Apart from regional finances, human resources are also development capital which is very crucial in efforts to increase regional economic growth. The active participation of all residents can accelerate economic growth in the area, this is reflected in the workforce. According to the classical economist, Smith, there are two main components that can explain economic growth, namely an increase in output and an increase in population (Prawira et al., 2017).

The measure of physical economic development can be seen from the increase in the number of goods and services produced in a region as well as the availability of infrastructure that can be accessed by all residents in the region. According to Simon Kuznet's thoughts, the government has a responsibility to provide adequate infrastructure for society. This is because infrastructure is the most important public facility to support the economic activities of the population in an area. It is hoped that the massive increase in infrastructure facilities will spur economic activity and community welfare (Intan Suswita et al., 2020).

According to endogenous growth theory, there are several factors that contribute to economic growth, namely elements of physical capital and technological progress. The role of technology can play a role in supporting a country's economic growth. Technological capabilities can increase a country's role in providing facilities in the form of goods and services to increase the competitiveness of its citizens. Apart from that, technological advances will also improve human quality, this will ultimately encourage production (Todaro & Smith, 2011).

The implementation of democracy in a country will affect the economic condition of that country. Acemoglu et al., (2019) conducted research using panel data from several countries over a 50 year period. The results of his study found that when a country implements a democratic system it will have a significant impact on economic progress. This condition is not in line with Barro (1996) who thinks that democracy cannot directly influence economic development. According to him, democracy does not have a direct influence on economic growth, but only has an impact on variables that are believed to influence growth itself. These variables are social capital and human capital which are mediated by the quality of government.

METHOD

This study is a quantitative study, namely a scientific approach when making managerial and economic decisions (Kuncoro, 2011). Secondary data used in this study is data sourced from several government publications, including from the Central Statistics Agency and Reports from the Ministry of Finance of the Republic of Indonesia. The data used is panel data

with the period used, namely from 2015 to 2022. This research uses a purposive sampling method in determining the sample, namely a sample taken using certain basic measurements. The measurement of economic development in this study uses the Gross Regional Domestic Product (GRDP) proxy at 2010 Constant Prices using annual calculations for each province in billions of rupiah. GRDP at constant prices is the total value of production or income or expenditure calculated on the basis of fixed prices (prices in the base year) used in a one year period. This study uses three independent variables, namely village funds, technology and democracy.

This research uses panel data regression analysis. The equation model is as follows:

$$PE_{it} = \alpha + \beta_1 DD_{it} + \beta_2 ICT_{it} + \beta_3 IDI_{it} + e$$

Where PE : economic growth, DD : Village fund, ICT : technology, IDI : democracy.

DISCUSSION

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Based on the results of the Chow Test and Hausman Test, the appropriate panel data regression model used for this study is the Fixed Effect Model (FEM). The regression results using the Fixed Effect Model (FEM) are as follows:

Table 2. Fixed Effect Model estimation results (Selected Model)

Variable	Coeff.	t-Statistic	Sig.	Exp
C	3.258546	4.918844	0.0000	-
DD	-0.010889	-0.944077	0.3462	Not Sig.
ICT	0.027473	4.953585	0.0000	Significant
IDI	-6.05E-07	-0.442016	0.6589	Not Sig.
R-Squared	0.998125			
F-statistic	2885.564			

Source: Data processed by EViews 9

Based on the results of the Fixed Effect Model (FEM) regression in the table above, the results of the regression model equation between the variables economic growth, village funds, workforce, infrastructure, human capital, technology and democracy are obtained as follows:

$$PE_{it} = 3,25 - 0,01DD_{it} + 0,027 ICT_{it} - 6,05 IDI_{it}$$

Where PE : economic growth, DD : Village fund, ICT : technology, IDI : democracy.

The impact of village funds on economic growth

The first hypothesis in this research states that village funds have a positive effect on economic growth. However, the research results show that the value of village funds has no effect on economic growth. This can be seen in the t-test table, where the probability value

is 0.3462 (>0.05) with a coefficient value of -0.010889. The research results are not in accordance with the proposed hypothesis. This means that the amount of village funds that go into each region has not been able to increase economic growth in the 2015-2022 research period.

Referring to the results of the hypothesis testing above, the results obtained are not in accordance with Keynes' ideas about economic growth, which states that several factors determine economic growth, namely consumption expenditure, government expenditure, investment and net exports. In Keynes's *The General Theory*, it is stated that fiscal regulations are a driver of economic activity. Government spending has an impact called a multiplier effect, namely by providing additional stimulants to goods consumed by households (Marpaung et al., 2020). So, the higher the nominal government spending, the public consumption will automatically increase, this will ultimately increase economic growth (Mankiw, 2006).

Based on empirical data on Village Fund output achievements, it can be seen that village fund allocations are mostly used to build physical facilities and infrastructure in village areas. Apart from that, the allocation used to empower community economic activities is still relatively low, so the impact of the existence of village funds is not visible in a short time. According to Sukirno (2013) in realizing economic growth through development, it must be supported by other factors such as capital and expert staff. Meanwhile, there are still limitations in village financial management and reporting as well as inappropriate village development planning. This is still a problem that should be resolved by each district government through village assistance (Ripandi, 2019).

Besides that, if you look at the proportion of village funds to the total APBN, the value is still relatively small. In the table above, you can see the value of village funds compared to state expenditure according to the realization of the 2021 APBN. The proportion of village funds is only around 2.57% compared to the realization of state expenditure according to the 2021 APBN. This relatively small value is one of the things that causes village funds to have no impact significant impact on economic growth in Indonesia.

The findings are in line with previous empirical studies, namely by Ritonga et al. (2021) namely that village funds do not have a significant impact on economic development. This empirical study explains that the management of village fund allocation in West Sumatra is still less effective in efforts to increase economic growth in the area. Furthermore, other funding factors, such as investment, may have a more dominant impact on economic growth, as evidenced by the empirical study by Asykarulloh et al., (2023).

The impact of technology on economic growth

The fifth hypothesis in this research states that technology has a positive effect on economic growth. The research results show that technology has a positive and significant effect on economic growth with a probability value of 0.0000 (<0.05) and a coefficient value of 0.027473. This research is in line with the proposed hypothesis that technology has a positive and significant influence on economic growth in Indonesia in the period 2015 to 2022. This means that if the value of technology increases, economic growth will also increase.

The findings of this study confirm the endogenous growth theory put forward by Romer (1986) which explains that technology is one of the determining factors of economic growth in the long term. This is in line with global evolution which is characterized by modern technological advances that are utilized in the production of goods and services (Maharani & Isnawati, 2014). Technology can increase work productivity. Rapid technological progress if followed by good quality human resources will have an impact on improving the production process to become more effective and efficient (Oktavia, 2020). With technology, the same

quantity of labor can produce more products or output because the production process is more efficient. The greater the economic output in a region, the greater the amount of GRDP obtained by that region (Rochdianingrum & Setyabudi, 2020).

The results of this research confirm the empirical study conducted by Arabi (2017) namely that technology has a positive effect on economic growth, both long and short term. Technological developments play a very important role in economic growth, therefore it is important for the government to provide facilities to the community related to technology, both physical and non-physical facilities.

The impact of democracy on economic growth

The sixth hypothesis in this research states that democracy has no effect on economic growth. The research results show that democracy has no effect on economic growth with a probability value of 0.6589 (>0.05) and a coefficient value of $-6.05E-07$. This means that democracy has no effect on economic growth in the area in the period 2015 to 2022.

Democratic system does not directly influence the economic growth of a region. However, democracy only has an influence on a few variables that are considered to have an impact on economic growth. Some of these variables include social capital and human capital which are mediated by the quality of government (Barro, 1996). According to Gerring et al. (2005) democracy does not affect economic growth directly. Democracy influences economic performance through four factors, namely physical capital, human capital, social and political. In this case, it takes a long period of time for democracy to influence economic performance.

In line with previous studies by Intan Suswita et al. (2020), who found that democracy had no significant effect on the economic growth of provinces on the island of Sumatra. Developing countries cannot afford democracy because their systems are considered ineffective for economic growth. The rapid economic improvement in countries with authoritarian governments is considered an example of the success of their government's economic performance. The challenges of democracy in developing countries are often related to the low institutional capacity of the state, where the government struggles to formulate and implement consistent and effective economic policies (Knutsen, 2013).

CONCLUSION

Based on research that has been conducted, it was concluded that the amount of village funds has no effect on economic progress in Indonesia. The findings of this study are different from Keynes' theory of economic growth which states that fiscal policy will activate the economy. Technology has a positive and significant influence on economic growth. The results of this research confirm the endogenous growth theory pioneered by Romer (1986) which states that technology is one of the determining factors of economic growth in the long term. Democracy does not affect economic growth in Indonesia. The weakness of this research is in the use of variables, future researchers can use other variables such as human capital or the number of workers.

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