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The Role of Technology Development and Economic Infrastructure in the Development Efforts of the Welfare of the Indonesian People

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Abstract

This study aims to examine the role of technological developments and economic infrastructure in developing the welfare of the Indonesian people. This study uses secondary data from world banks and processed regression using the moving average autoregression method. We find that Economic Infrastructure and Technology Development are positively related to gross domestic product which reflects the welfare of the Indonesian people. The estimation results indicate that when the economic infrastructure is upgraded based on high technology, it will encourage economic growth as indicated by the growth of gross domestic product which in turn will bring welfare to the people. When the economic infrastructure is upgraded based on high technology, it will encourage economic growth, which is indicated by the growth of gross domestic product which in turn brings prosperity to the people.

Keywords: Technology, Indonesia, Economic Growth
JEL Classification: C0, J24, J64

Background

The development of technology in Indonesia is increasingly massive. Technological developments play a role in increasing production and facilitating human life and work (Putranto et al,2003).

Infrastructure is very important in supporting economic activity. Economic activity has an impact on economic growth or gross domestic product that reflects people's welfare. Infrastructure makes economic activity run better and increases economic growth (Mohmand et al,2021).

This study aims to examine the role of technological developments and economic infrastructure in developing the welfare of the Indonesian people. We use the hypothesis or temporary conclusion that the development of technology and infrastructure can promote economic growth.

Literature review

Technology plays a role in improving the performance of human resources because the role of technology is to facilitate human work and make human work complete faster and better.

Technological development is in the form of efforts to develop technology so that it has an increasingly positive impact (Latzer,2013).

Economic infrastructure is a public good that is held by the government in supporting population activities, including economic activities. Government investment in infrastructure has resulted in increased support for economic activity. When economic activity goes well, the economy can grow well (Batool & Goldmann,2020).

Economic growth is indicated by an increase in gross domestic product. Gross domestic product is the total economic value of all goods and services produced domestically. Economic growth will have an impact on increasing public opinion so that it has an impact on improving people's welfare (Banerjee et al,2021).

Research methods

This research studies the role of technological developments and economic infrastructure in developing the welfare of the Indonesian people. This study uses secondary data from world banks and processed regression using the moving average autoregression method with the following equation:

$GDP_t = C_t + \beta_1 TI_{t1} + \beta_2 G_{t2} + e_t$

Where,
GDP = Gross Domestic Product
C = Constant
TI = Technology Development
G = Economic Infrastructure
e = Error Term

All financial data is calculated in USD.

Results and Discussion

The estimation results are as follows:

GDP = 53052088846.9 + 9.83065634917 * G + 23.9559408062 * TI

From the estimation results, Economic Infrastructure and Technology Development have a positive relationship with gross domestic product that reflects the welfare of the Indonesian people. The estimation results indicate that when the economic infrastructure is upgraded based on high technology, it will encourage economic growth as indicated by the growth of gross domestic product which in turn will bring welfare to the people. Table 1 illustrates the estimation results as follows:

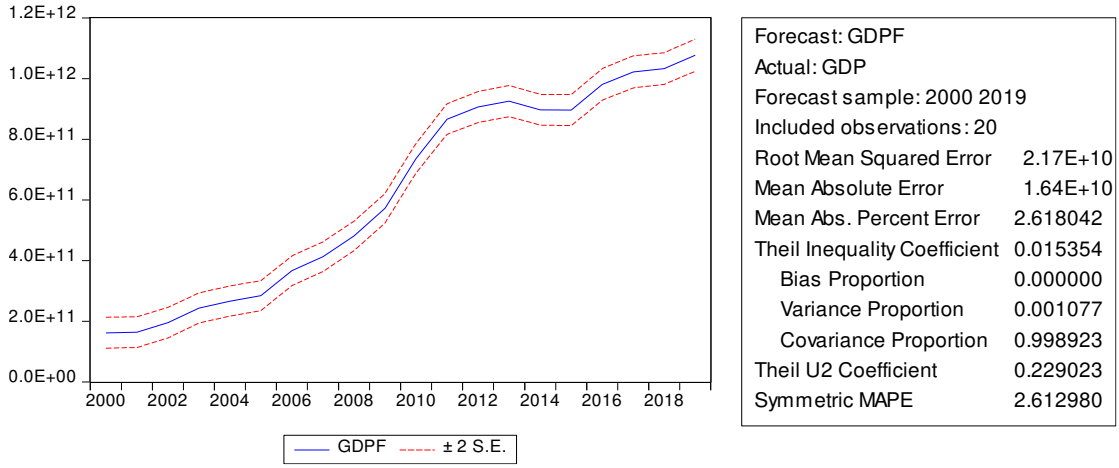
Table 1. Estimation Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.31E+10	1.14E+10	4.63928	0.0002
G	9.830656	0.273312	35.96863	0
TI	23.95594	10.29523	2.326896	0.0326
R-squared	0.995701	Mean dependent var		6.24E+11

Adjusted R-squared	0.995196	S.D. dependent var	3.39E+11
S.E. of regression	2.35E+10	Akaike info criterion	50.73799
Sum squared resid	9.41E+21	Schwarz criterion	50.88735
Log likelihood	-504.3799	Hannan-Quinn criter.	50.76714
F-statistic	1968.815	Durbin-Watson stat	1.320052
Prob(F-statistic)	0		

Based on the estimation results described in Table 1., it can be seen that the R-square is quite high, namely 0.995701 so that the quantitative calculation results show a 99% level of truth. Figure 1. Shows the forecasting of economic growth in Indonesia.

Figure 1. Forecasting Economic Growth in Indonesia



Source: Author Computing

From the results of forecasting, it can be seen that economic growth in Indonesia is experiencing very rapid growth by taking into account technological developments and economic infrastructure in the process of building forecasts of economic growth. This shows that when the economic infrastructure is upgraded based on high technology, it will encourage economic growth as indicated by the growth of gross domestic product which in turn brings prosperity to the people.

Conclusion

When the economic infrastructure is upgraded based on high technology, it will encourage economic growth, which is indicated by the growth of gross domestic product which in turn brings prosperity to the people.

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