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Development of Economic Technology and Infrastructure in Stimulating Consumption and Economic Growth

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Abstract

This study aims to examine the development of technology and economic infrastructure in driving consumption and economic growth in Indonesia. This study uses secondary data from world banks and processed regression using the moving average autoregression method. We conclude that the supporting infrastructure for the economy and public consumption has a role or a role in driving economic growth. The construction of highways as the supporting infrastructure for the economy in terms of smooth distribution along with traditional markets is an economic supporting infrastructure that is very important in the Indonesian economy, supported by the high level of consumption of Indonesian society.

Keywords: Technology, Indonesia, Consumption
JEL Classification: C0, J24, J64

Background

Indonesia is a country that is very open to science and technology. Technological development has occurred quite massively in Indonesia with good technological inclusion. Technology development has an impact on improving the performance of human resources which in turn increases the gross domestic product, which is an indicator of economic growth (Adenle et al,2020).

Increased production must of course be balanced with increased consumption. Where when production increases there is absorption of human resources which naturally increases the collective income of the community which is used for consumption so that there is an increase in consumption (Scarboro et al,2020).

Infrastructure functions as a support for economic activity, namely production, distribution and consumption. By investing in infrastructure such as roads, it can encourage business activities which in turn drive economic growth (Henke & Sims,2020).

This study aims to examine the development of technology and economic infrastructure in driving consumption and economic growth in Indonesia. We use a hypothesis or a provisional conclusion that technology and infrastructure development drives consumption and economic growth in Indonesia.

Literature Review

Technology development is a systematic and planned effort to increase the impact of technology in order to obtain more and better results. Technology development needs to be supported by adequate infrastructure to improve the economy. Infrastructure has an impact on increasing economic activity which in turn encourages consumption and economic growth (Karabegović,2019).

Consumption is an activity that consumes value for products made by residents. So that consumption can be used as an indicator in the absorption of the domestic market that creates a demand signal. The demand signal encourages producers to produce more so that gross domestic product increases and in turn encourages economic growth (Greenwood,2020).

Gross domestic product is the total collective total economic value of all goods and services produced in one year nationally. Gross domestic product is an indicator of economic growth and an increase in people's welfare (Albert & Werron,2020).

Research methods

This research studies the Development of Technology and Economic Infrastructure in Encouraging Consumption and Economic Growth. This study uses secondary data from world banks and processed regression using the moving average autoregression method with the following equation:

$$GDP_t = C_t + \beta_1 TI_{t1} + \beta_2 IH_{t2} + \beta_3 POV_{t3} + e_t$$

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

All financial data is calculated in USD.

Results and Discussion

The estimation results are as follows:

GDP = -20164270870 + 1.29737551092*CO + 1.75910084264*G - 1.29270496294*TI

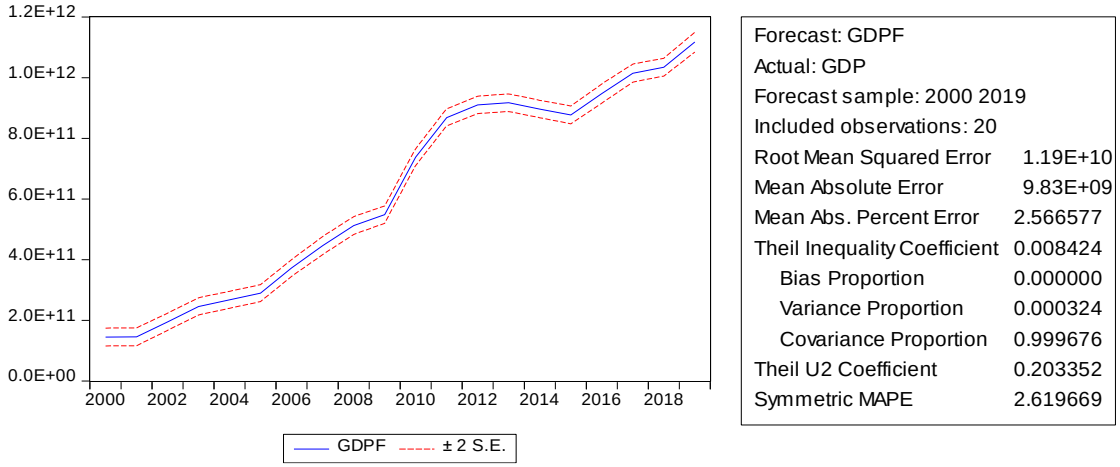
From the estimation results, Technology Development (IT) has a negative relationship with gross domestic product, which is an indicator of economic growth. And, Economic Infrastructure (G) together with Consumption Co) is positively related to gross domestic product which is an indicator of economic growth. This indicates that the supporting infrastructure for the economy and public consumption has a role or a role in driving economic growth. Table 1 illustrates the estimation results as follows:

Table 1. Estimation Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.02E+10	1.36E+10	-1.477835	0.1589
CO	1.297376	0.212886	6.094234	0
G	1.759101	1.333449	1.319211	0.2057
TI	-1.292705	7.146522	-0.180886	0.8587
R-squared	0.998706	Mean dependent var		6.24E+11
Adjusted R-squared	0.998463	S.D. dependent var		3.39E+11
S.E. of regression	1.33E+10	Akaike info criterion		49.63765
Sum squared resid	2.83E+21	Schwarz criterion		49.8368
Log likelihood	-492.3765	Hannan-Quinn criter.		49.67653
F-statistic	4115.211	Durbin-Watson stat		0.825655
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 0.998706 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 the Development of Economic Technology and Infrastructure in Encouraging Consumption and Economic Growth in the process of building economic growth forecasts in Figure 1.Based on the results of estimates and forecasting, the supporting infrastructure for the economy and public consumption has a role or share in driving economic growth.

Conclusion

Infrastructure supporting the economy and public consumption has a role or a role in driving economic growth. The construction of roads as economic support infrastructure in terms of smooth distribution and traditional markets is an economic support infrastructure that is very important in the Indonesian economy, supported by the high level of consumption of Indonesian society.

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