

Investment in Technology and Investment in Public Goods in Encouraging Public Consumption and Net Trade Balance in Efforts to Increase Population Income in Indonesia

Narto, Bambang Hadi Prabowo
(STIE Jaya Negara Tamansiswa Malang)

Abstract

This research studies technology investment and investment in public goods to encourage public consumption and the net trade balance in an effort to increase population income in Indonesia. This study uses secondary data from world banks and processed regression using the moving average autoregression method. We find that the economy in Indonesia is supported by public consumption and public purchases of domestic products as well as productivity in producing export goods which is indicated by the positive relationship between net exports and informal activities in the people's economy facilitated by the government in the form of traditional markets and roads that are the backbone of the Indonesian economy. in the research period, namely 2000 to 2019.

Keywords: Technology, Indonesia, Income

JEL Classification : C0, J24, J64

Background

Indonesia is able to adapt to the latest technology and has a budget for developing research and technological innovation. Technology development is a form of technology investment which is an effort to improve the quality of the results of existing technology (Cadeddu et al,2019).

Public procurement is an activity and effort by the government to support the activities of its citizens, including economic activities. Investments in public goods in support of economic activity can be integrated with technological development in an effort to encourage economic growth which also has an impact on increasing consumption and income of the population (Roseland,2012).

This study examines technology investment and investment in public goods to encourage public consumption and the net trade balance in an effort to increase population income in Indonesia. With the initial hypothesis or conclusion that technology integration and investment in public goods can encourage economic growth and consumption so as to encourage economic activity that has an impact on increasing the income of the Indonesian population.

Literature Review

Technology can be defined as a collection of methods, systems and techniques in completing work either in the form of the creation of certain tools such as machines or certain methods. Technological investment is an effort to improve the quality of technology so that it can generate more profits or more quickly achieve the goals of the technology investment itself (Hanson et,al,2020).

Public goods are goods that are owned by the community and can be used by the whole community, such as roads. Public goods are generally provided by the government, financed by taxes paid by the public to the state. Investment in technology and investment in public goods can be integrated to achieve the objectives of public procurement. For public goods that play a role in driving the economy, such as roads and markets, it can accelerate the achievement of the goal of public goods procurement, namely to boost the economy. For example, the use of solar panel technology for street lighting, which previously used state electricity. This can save more on the regular budget that can be allocated to the procurement of other public goods so that economic support is maximized by increasing public goods produced at the same cost due to technology (Colker,2019).

Consumption and net exports are indicators of absorption of production in the domestic market for consumption and absorption of international markets for net exports. Both markets play a role in the economy because they create demand that can be responded to by increasing production which in turn encourages gross domestic product, which is an indicator of population income (Bartelmus,2018).

Research Method

This research studies technology investment and investment in public goods to encourage public consumption and the net trade balance in an effort to increase population income in Indonesia. This study uses secondary data from world banks and processed regression using the moving average autoregression method with the following equation:

$$GDP_t = C_t + \beta_1 TI_{t1} + \beta_2 G_{t2} + \beta_3 Co_{t3} + \beta_3 Nx_{t3} + e_t$$

Where,

GDP = Gross Domestic Product

C = Constant

IT = Technology Investment

G = Investment in Public Goods

Co = Poverty

Nx = Net Exports

e = Error Term

All financial data is calculated in USD.

Results and Discussion

The estimation results are as follows:

$$\text{GDP} = -25060228770.3 + 1.31151998953 \cdot \text{CO} + 1.69669115249 \cdot \text{G} + 0.235893186926 \cdot \text{NX} - 1.06834635143 \cdot \text{TI}$$

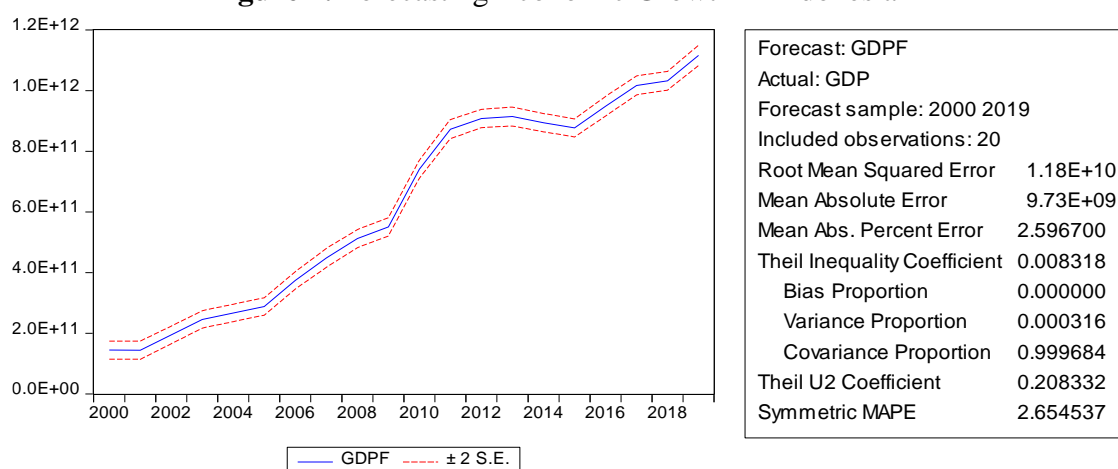
From the estimation results, Consumption (Co), Public Goods Investment (G) and Net Exports (Nx) are positively related to gross domestic product which is an indicator of the income level of the Indonesian people. So the estimation results indicate that public consumption, investment in public goods that support people's economic activities and net exports can increase the income of the Indonesian people. Table 1 illustrates the estimation results as follows:

Table 1. Estimation Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.51E+10	1.60E+10	-1.566561	0.1381
CO	1.31152	0.218294	6.008039	0
G	1.696691	1.363563	1.244307	0.2325
NX	0.235893	0.380258	0.620351	0.5443
TI	-1.068346	7.296967	-0.14641	0.8855
R-squared	0.998738	Mean dependent var	6.24E+11	
Adjusted R-squared	0.998402	S.D. dependent var	3.39E+11	
S.E. of regression	1.36E+10	Akaike info criterion	49.71232	
Sum squared resid	2.76E+21	Schwarz criterion	49.96125	
Log likelihood	-492.1232	Hannan-Quinn criter.	49.76092	
F-statistic	2967.839	Durbin-Watson stat	0.851831	
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 0.998738 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 forecasting results, it can be seen that the economic growth in Indonesia is experiencing very rapid growth by taking into account the investment in technology and investment in public goods to encourage public consumption and the net trade balance in an effort to increase the income of the population in Indonesia. This shows that the Indonesian economy is supported by public consumption

and the productivity of the people whose products are sold domestically and abroad, which is indicated by the positive relationship between net exports and economic facilities and infrastructure in the form of public goods provided by the Indonesian government such as traditional markets and roads.

Conclusion

The economy in Indonesia is supported by public consumption and public purchases of domestic products as well as productivity in producing export goods which is indicated by a positive relationship between net exports and informal activities in the people's economy facilitated by the government in the form of traditional markets and roads which are the backbone of the Indonesian economy during the study period namely 2000 to 2019.

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