

The role of technology investment, business sector investment, public goods investment in driving net exports and economic growth in Indonesia

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Abstract

This research studies technology investment, investment in the business sector, investment in public goods in driving net exports and economic growth in Indonesia. This study uses secondary data from world banks and processed regression using the moving average autoregression method. We found that technology investment, business sector investment, public goods investment and net exports when integrated can drive economic growth in Indonesia. These four factors can complement each other and are linked in encouraging economic growth so that these four factors must be integrated into field technical implementation to create leaps of economic growth that are still in Indonesia.

Keywords: Technology, Indonesia, Net Exports
JEL Classification: C0, J24, J64

Background

Indonesia is a maritime country with a very wide sea. The ocean itself is a bridge that connects the whole world. Maritime countries with long coastlines and vast oceans such as Indonesia can optimize integrated business support infrastructure in the form of sea tolls or an increase in ship docks so that trade between regions and between countries can increase (Santoso et al,2020).

The increase in sea trade routes which can become an international trade route must also be accompanied by an increase in domestic production in addition to meeting domestic needs as well as meeting international needs so that investment in the business sector and investment in technology is needed to increase production. Investment in the business sector is in the form of adding new business units or enhancing existing business units. Maximized by technology investment in an effort to increase exports (Shibasaki et al,2020).

The increase in exports and production boosts economic growth as indicated by gross domestic product. An increase in the economy also means an increase in income and welfare of the population (Labor Dew et al,2013).

This study examines the role of technology investment, business sector investment, public goods investment in driving net exports and economic growth in Indonesia. The hypothesis or tentative conclusion is that increasing production through technology investment and business sector investment

supported by export-supporting infrastructure investment can increase net exports and economic growth.

Literature review

The role of technology investment in encouraging economic growth is increasing production through increased workforce performance. This was first put forward by Solow which is known as the Solow equation. Solow incorporates the technology factor into the production equation which means that technology improves the performance of human resources. So that investment in technology means efforts to improve the quality of technology so that it can be faster and better in helping human work (Willner et al,2020).

Investment in the business sector is investment in the form of new business procurement and improvement of existing businesses. Investment in the business sector can boost production which in turn drives economic growth (Rhee,2020).

Technological investment and business sector investment need to be supported by the existence of supporting infrastructure, which is generally public goods. Investment in public goods is an increase in business support infrastructure in the form of public goods to increase support for business activities. These three investments can be interpreted in encouraging exports with the aim of increasing exports so as to encourage net exports (Kim et al,2020).

Research Method

This research studies technology investment, investment in the business sector, investment in public goods in driving net exports and economic growth in Indonesia. This study uses secondary data from world banks and processed regression using the moving average autoregression method with the following equation:

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

Where,

GDP = Gross Domestic Product

C = Constant

IT = Technology Investment

I = Business sector investment

G = Investment in public goods

Nx = net exports

e = Error Term

All financial data is calculated in USD.

Results and Discussion

The estimation results are as follows:

$$\text{GDP} = 48200886115 + 9.68373324301 * G + 1.03546377488 * I + 0.0805825419294 * \text{NX} + 25.4614190837 * \text{TI}$$

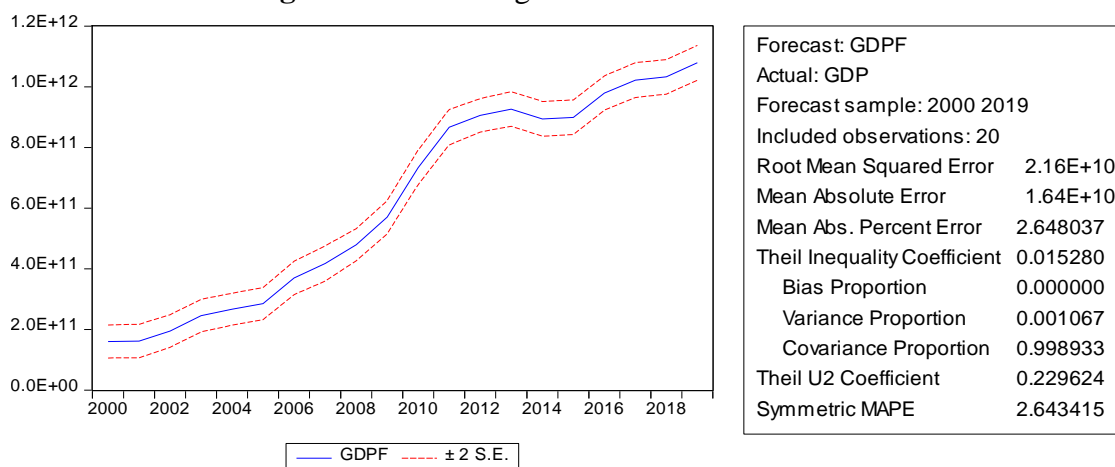
From the estimation results, investment in technology (IT), investment in the business sector (I), investment in public goods (G) and net exports (Nx) are positively related to gross domestic product (GDP) which indicates that these factors when integrated can drive economic growth. in Indonesian. Table 1 illustrates the estimation results as follows:

Table 1. Estimation Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.82E+10	2.14E+10	2.25628	0.0394
G	9.683733	0.486275	19.91413	0
I	1.035464	2.707059	0.382505	0.7075
NX	0.080583	0.727956	0.110697	0.9133
TI	25.46142	11.69351	2.177397	0.0458
R-squared	0.995743	Mean dependent var		6.24E+11
Adjusted R-squared	0.994608	S.D. dependent var		3.39E+11
S.E. of regression	2.49E+10	Akaike info criterion		50.92828
Sum squared resid	9.32E+21	Schwarz criterion		51.17721
Log likelihood	-504.2828	Hannan-Quinn criter.		50.97687
F-statistic	877.1044	Durbin-Watson stat		1.357976
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 0.995743 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 technology investment, business sector investment, public goods investment, and net exports in the process of building economic growth forecasts. This shows that investment in technology (IT), investment in the business sector (I), investment in public goods (G) and net exports (Nx) when integrated can drive economic growth in Indonesia.

Conclusion

Investment in technology (IT), investment in the business sector (I), investment in public goods (G) and net exports (Nx) when integrated can drive economic growth in Indonesia. These four factors can complement each other and are linked in encouraging economic growth so that these four factors must be integrated into field technical implementation to create leaps of economic growth that are still in Indonesia.

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