Impact of Government Spending and Foreign Investment on Exports, Imports, and Economic Growth in Indonesia

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ABSTRACT

Purpose: Economic integration have an impact on increasing trade volume and production output in various countries. Likewise, the ease of capital mobility between countries, makes investment not only rely on capital derived from domestics, but can come from foreign direct investment.

Design/methodology/approach: This study used time series data during the 1980-2019. The analysis model used is multiple linear regression using, by first testing classical assumptions so that the regression results are Unbias.

Findings: The results showed that foreign investment, government spending, and economic openness can significantly increase export, import, and economic growth. Furthermore, the rupiah exchange rate, which is depreciating against the US dollar, can increase export growth and reduce Indonesia's import growth. Meanwhile, higher inflation can cause a significant decline in export and import growth, but an insignificant decline for Indonesia's economic growth.

Keywords: Foreign Investment, Government Spending, Economic Openness, International Trade, and Economic Growth

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I. INTRODUCTION

Trade openness can have both positive impacts on the economy depending on the readiness of each country to face trade liberalization (Chirathivat, 2002). Itakura (2014) and Minniti (2010) explain that liberalization and improved connectivity and reduction of trade barriers have a positive impact on improving economic well-being. In addition to trade openness, government spending is also a determining factor in increasing economic growth. This condition is explained by Chani et.al. (2011) who explained that increasing government spending can increase the smooth export of trade products. Meanwhile, research conducted by Mwakanemela (2014); Nguyen (2014); Tabassum et al. (2012); Tomar & Tomar (2014); Uysal O. and Abdulakadir (2018); Tarawalie & Conteh (2021), suggests that rising FDI may increase export growth, but in the opposite direction to Bhavan's research (2016); Yee et al. (2016), reinforcing the opinion that rising FDI could provide a meaningful increase for Indonesia's export growth. With the increasing inflow of foreign investment in Indonesia, production has increased, including export-oriented products.

This research is interesting to do. In addition, research on issues, trade openness, government spending and foreign investment is still very little done. The main objective of this study is to analyze the role of foreign investment, government spending, and trade openness for the Indonesian economy.

A. Literature Review

Some views related to factors that can affect exports and imports include Dornbusch, S. et al (2011), who state that net exports will increase if it happens the depreciation of the real exchange rate. Conversely, when the
exchange rate appreciates foreign currencies, exports become more expensive, so exports tend to decrease and imports of goods increase. Samuelson & William (2010) explained that if the price of foreign products increases or domestic currency depreciates against foreign currencies, so the volume and value of exports tend to increase. Kearly, J.R. et al (1989) states that if the world prices are higher than domestic prices on the same commodity, will encourage domestic companies sell some output abroad (Export). McConnell, C. et al (2012) showed that domestic inflation can cause the value of exports decrease and imports increase.

Furthermore, the trade balance deficit can be explained through the AD-US curves. Lipsey and Cristal (2011) explain, the expansion of fiscal policy on floating exchange rates with perfect capital mobility will shift the AD-US curve to the right, so demand will increase and import will increase. The result is that trade balance will deficit. Exchange rate appreciation resulted in domestic prices being more expensive than foreign goods causing net exports to decline. In the long run at the state of a full balance income level, permanent real exchange rate appreciation will lead to a trade balance deficit. Colander (2020) explains that, the effect of fiscal policy on the trade balance basically works through the effect of revenue, where the expansion of fiscal policy can increase revenue. If there is an increase in income, it will cause imports to increase. Another factor that can affect a country's exports and imports are the government policy in international trade (Mankiw et al, 2008). 

II. METHODS

Research on the Effect of Third Funds, Financing to Deposit Ratio and Return On Assets on Financing at Bank Muamalat KCP Probolinggo uses quantitative methods with a descriptive approach. Using quantitative methods because the data required is in the form of numbers in financial reports, the numbers in question are the amount of financing. Third Party Funds (DPK), Financing to deposit ratio (FDR) and Return on Assets (ROA). Meanwhile, the descriptive method is a statistical method which has the task of collecting, managing and analyzing data and then presenting it in a good form. 

The population in this this research is required 20 data from the 2018 - 2022 quarterly financial reports. The data collection technique in this research was that the researcher carried out indirect observations by collecting data from the annual financial reports of Bank Muamalat KCP Probolinggo from 2018-2022. The sampling method used in this research is Saturated Sampling. Saturated sampling is a sample selection technique when all population data is sampled. The reason for using the saturated sampling technique is because the population size is relatively small, namely less than 30.

Then the researcher analyzed the financial reports using 3 independent variables, namely, Third Party Funds (DPK) as X¹, Financing to Deposit Ratio (FDR) as X², Return On Assets (ROA) as X³. The methods used are the classical assumption test, simple and multiple linear regression analysis, and hypothesis testing.

III. RESULTS AND DISCUSSION

The research model uses multiple linear regression, namely Two Stage Least Square (TSLS) using the help of Eviews software. In looking for the influence of trade openness, government spending and FDI variables on exports, imports, and GDP growth; exchange rate, inflation, and net export control variables are used.

A. Data

The data sources used in the study were time series data from 2000-2019, which were published from various sources: the Central Statistics Agency (BPS), Bank Indonesia (BI), and International Financial Statistics (IFS).

B. Research Method

In estimating the model, data will be regressed by each variable to Indonesia's exports, imports and economic growth rate. Based on this, 3 (three) models of equations as follows:

\[
\begin{align*}
LX_t &= \alpha_0 + \alpha_1\text{EXC}_t + \alpha_2\text{CPI}_t + \alpha_3\text{LFDI}_t + \alpha_4\text{LGE}_t + \alpha_5\text{OPN}_t + \epsilon_t \quad \ldots \ldots \quad (1) \\
LM_t &= \beta_0 + \beta_1\text{EXC}_t + \beta_2\text{CPI}_t + \beta_3\text{LFDI}_t + \beta_4\text{LGE}_t + \beta_5\text{OPN}_t + \mu_t \quad \ldots \ldots \quad (2) \\
LGDP_t &= \gamma_0 + \gamma_1\text{NEX}_t + \gamma_2\text{CPI}_t + \gamma_3\text{LFDI}_t + \gamma_4\text{LGE}_t + \gamma_5\text{OPN}_t + \nu_t \quad \ldots \ldots \quad (3)
\end{align*}
\]

Where:

- \(LX\) = Logaitma Export of goods (million/thousand dollars), showing growth
- \(LM\) = Logarithm of Imports of goods (million/thousand dollars), showing growth
- \(LGDP\) = Logarithm of Gross Domestic Product, showing growth
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EXC = Exchange rate (rupiah/dollar)
NEX = Net Export (X – M)
CPI = Consumer Price Index (Inflation)
LFDI = Logarithm of Foreign Direct Investment, showing growth
LGE = Government of Expenditure Logarithm, showing growth
OPN = Trade Openness, (X + M)/GDP
α₀; β₀; γ₀ = Constant
λ, β, γ = Coefficient of Regression
eᵣ; uᵣ; νᵣ = Error

In equation (3), namely the LGDP economic growth model, the exchange rate control variables (EXC) that appear in equations (1) and (2) are replaced with net exports (NEX) because NEX variables directly affect LGDP than EXC variables.

C. Discussion

The development of exports and imports of Indonesian goods during the year 1980-2019, almost every year has increased, where the export of Indonesian goods almost every year exceeds the amount of imports of goods (Table 4.1).

<table>
<thead>
<tr>
<th>Tahun</th>
<th>X</th>
<th>%</th>
<th>M</th>
<th>%</th>
<th>GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>21,909</td>
<td>10,834</td>
<td>84,791</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>22,260</td>
<td>10,60</td>
<td>13,277</td>
<td>22,50</td>
<td>107,633</td>
</tr>
<tr>
<td>1982</td>
<td>22,295</td>
<td>0,15</td>
<td>16,859</td>
<td>27,03</td>
<td>110,498</td>
</tr>
<tr>
<td>1983</td>
<td>21,152</td>
<td>-5,12</td>
<td>16,859</td>
<td>0,00</td>
<td>99,866</td>
</tr>
<tr>
<td>1984</td>
<td>21,902</td>
<td>3,55</td>
<td>13,882</td>
<td>17,66</td>
<td>102,490</td>
</tr>
<tr>
<td>1985</td>
<td>18,590</td>
<td>15,12</td>
<td>10,262</td>
<td>26,08</td>
<td>102,171</td>
</tr>
<tr>
<td>1986</td>
<td>14,805</td>
<td>20,36</td>
<td>10,718</td>
<td>4,44</td>
<td>93,657</td>
</tr>
<tr>
<td>1987</td>
<td>17,135</td>
<td>15,74</td>
<td>12,891</td>
<td>20,27</td>
<td>88,824</td>
</tr>
<tr>
<td>1988</td>
<td>19,465</td>
<td>13,60</td>
<td>13,249</td>
<td>2,78</td>
<td>103,865</td>
</tr>
<tr>
<td>1989</td>
<td>22,160</td>
<td>13,85</td>
<td>16,444</td>
<td>24,12</td>
<td>118,684</td>
</tr>
<tr>
<td>1990</td>
<td>25,074</td>
<td>15,86</td>
<td>21,768</td>
<td>32,38</td>
<td>133,858</td>
</tr>
<tr>
<td>1991</td>
<td>29,543</td>
<td>15,07</td>
<td>26,013</td>
<td>19,50</td>
<td>149,934</td>
</tr>
<tr>
<td>1992</td>
<td>33,088</td>
<td>12,00</td>
<td>27,311</td>
<td>4,99</td>
<td>162,740</td>
</tr>
<tr>
<td>1993</td>
<td>36,825</td>
<td>11,29</td>
<td>28,328</td>
<td>3,72</td>
<td>184,839</td>
</tr>
<tr>
<td>1994</td>
<td>40,053</td>
<td>8,77</td>
<td>31,989</td>
<td>12,92</td>
<td>206,932</td>
</tr>
<tr>
<td>1995</td>
<td>45,417</td>
<td>13,39</td>
<td>40,630</td>
<td>27,01</td>
<td>236,456</td>
</tr>
<tr>
<td>1996</td>
<td>49,814</td>
<td>9,68</td>
<td>42,929</td>
<td>5,66</td>
<td>265,981</td>
</tr>
<tr>
<td>1997</td>
<td>56,297</td>
<td>13,01</td>
<td>51,304</td>
<td>19,51</td>
<td>252,386</td>
</tr>
<tr>
<td>1998</td>
<td>50,469</td>
<td>10,53</td>
<td>35,280</td>
<td>31,23</td>
<td>111,654</td>
</tr>
<tr>
<td>1999</td>
<td>51,244</td>
<td>1,74</td>
<td>33,321</td>
<td>-5,55</td>
<td>164,151</td>
</tr>
</tbody>
</table>

Figure 1. Development of Export and Import of Goods and Gross Domestic Product Indonesia in Million US, During the Years 1980-2019

Source: UNCTAD. Note: The figure of 21,909 (X of 1980) reads 21,909,000 dollars

Furthermore, based on the results of data processing, the influence of exchange rates, inflation, foreign investment, and government spending on exports and imports of goods, as well as economic growth can be seen in Table 2.
Table 1. Regression Results of Independent Variables Against Export, Import and Indonesia’s Economic Growth Rate, During the Period 1980-2019

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Dependent LX</th>
<th>Dependent LM</th>
<th>Dependent LGDP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coef</td>
<td>Prob</td>
<td>Coef</td>
</tr>
<tr>
<td>C</td>
<td>-0.457474</td>
<td>0.4978</td>
<td>-2.689083</td>
</tr>
<tr>
<td>EXC</td>
<td>6.11E-05</td>
<td>0.0027</td>
<td>6.19E-05</td>
</tr>
<tr>
<td>NEX</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>CPI</td>
<td>-0.009573</td>
<td>0.0017</td>
<td>-0.012388</td>
</tr>
<tr>
<td>LFDI</td>
<td>0.111119</td>
<td>0.0057</td>
<td>0.235047</td>
</tr>
<tr>
<td>LGOE</td>
<td>0.945231</td>
<td>0.0000</td>
<td>1.042927</td>
</tr>
<tr>
<td>OPN</td>
<td>0.024419</td>
<td>0.0000</td>
<td>0.021917</td>
</tr>
<tr>
<td>R2</td>
<td>0.990344</td>
<td></td>
<td>0.984268</td>
</tr>
<tr>
<td>R2Adj</td>
<td>0.988924</td>
<td></td>
<td>0.981954</td>
</tr>
<tr>
<td>F</td>
<td>697.4174</td>
<td></td>
<td>425.4276</td>
</tr>
<tr>
<td>Prob</td>
<td>0.000000</td>
<td></td>
<td>0.000000</td>
</tr>
</tbody>
</table>

Source: Processing Results

1. Exchange Rate, Inflation, Foreign Investment, Government Spending, and Economic Openness for Indonesia’s Export Growth

Mathematically the result of regression can be expressed in the following equation:

\[\text{LX} = -0.4574 + 6.11E-05\text{EXC} - 0.0095\text{INF} + 0.1111\text{LFDI} + 0.9452\text{LGOE} + 0.0244\text{OPN} + \varepsilon\]

\(\text{R}^2 = 0.9903\) \(\text{R}^2\text{Adj} = 0.9902\) \(F = 697.4174\) \(\text{Prob} = (0.0000)^***\)

The EXC exchange rate in rupiah per dollar has a significant influence on export growth in Indonesia, where the depreciation of the rupiah exchange rate against the US dollar has caused an increase in export growth. This is because the depreciation of the domestic currency has made the price of domestic products relatively cheaper. This research is in line with Jiang (2014); Adhikary (2012); Tomar & Tomar (2014); Potelwa et al. (2016); These results are identical in direction but not significant as Wongpit (2011) research; Wang et al. (2020). However, the results of this study are in the opposite direction to the research of Tabassum et al. (2012); Wildan et al. (2021); and Tarawalie & Conteh (2021). The results of this study are contrary to the results of Nyeadi et al (2014), who concluded that inflation has a positive effect on exports, but not significantly.

Inflation (INF) has a counter-directional and significant effect on the pace of exports, where if there is an increase in inflation, it causes a decrease in the pace of exports. This is because if the increase in domestic inflation causes the price of domestic products to be relatively more expensive than foreign prices. This research is in line with Tomar & Tomar (2014); Yee et al. (2016); Wang et al. (2020); Wildan et al. (2021). A research that is unidirectional but not significant for the pace of exports is the research of Tarawalie & Conteh (2021). The results of this study are contrary to the research of Tabassum et al. (2012), who concluded that inflation has a positive effect on exports, but not significantly.

Foreign Direct Investment (LFDI) provides a significant positive direction for increasing exports, where the increase in FDI can provide a significant increase for Indonesia’s exports. With the increasing inflow of foreign investment in Indonesia, production has increased, including export-oriented products. This is in line with
Mwakanemela's (2014) research; Tabassum et al. (2012); Tomar & Tomar (2014); Tarawalie & Conteh (2021), which states that increased FDI can increase the pace of exports; but in the opposite direction to Bhavan's research (2017); Yee et al. (2016), where the effect of FDI on exports is negative.

Government spending (LGGE) has a significant positive influence on the pace of exports, where the greater the government expenditure can lead to an increase in the pace of Indonesia's exports. This is because the increased government expenditure is partly used by capital expenditures, such as the provision of facilities and infrastructure to support trade, so as to help smooth exports of products in its international trade. This research is in the same direction as Chani et al. (2011) but its effect is not significant in the research conducted by Adhikary (2012).

The economic openness can increase the pace of exports, an increasingly open economy can provide a wider market for the penetration of export products as well as wider country destinations for Indonesia. The results of this study are identical to those of Makhluft et al. (2015); Fang et al. (2020). However, Adhikary's research (2012) shows insignificant results on the impact of economic openness on exports.

2. Exchange Rate, Inflation, Foreign Investment, Government Spending, and Economic Openness for Indonesia's Export Growth

Mathematically the results of regression in the Table can be expressed in the following equation:

\[ LM = -2.6890 - 0.19E-05EXC t - 0.0123INF t + 0.2350LFDI t + 0.0219OPN t + u \ t \ldots \]

(2)

\[
(0.0097) (0.0324) (0.0501) (0.0002)** (0.0000) (0.0000) \\
R^2 = 0.9842 \\
R = 0.9819 \\
F = 425.4276 \\
Prob = (0.0000)**
\]

The exchange rate in rupiah per dollar has a significant negative influence on imports, where in the event of depreciation of the Indonesian currency, it provides a decrease in the rate of imports. This is because imports of raw materials and capital goods are relatively increasingly expensive. This research is in line with Ibrahim, A. A. A., & Ahmed, E. M. (2017). The direction of the influence of the exchange rate on imports is identical i.e. negative as done by Uzunoz & Akcay (2009); Nteegah, A., & Mansi, N. (2017). But the opposite is that it has a significant positive relationship in the research of Galebotswe, O., & Andrias, T. (2011); Ekanayake, N. (2016); Ibrahim, A. A. A., & Ahmed, E. M. (2017).

Inflation has a significant negative relationship with imports, where if domestic inflation increases, the amount of Indonesia's imports will decrease. Increasing inflation also causes an increase in industrial raw materials so that companies will suppress production and reduce import demand related to imported materials used in production said. These results are in line with the research of Çakmak et al. (2016); Ekanayake, N. (2016) and Nteegah, A., & Mansi, N. (2017), but contrary to the research of Uzunoz & Akcay (2009); Malik & Chaudhary (2012) which shows a positive relationship between inflation and imports.

Foreign Direct Investment (LFDI) has a significant positive relationship with imports, where an increase in FDI can increase imports in Indonesia. This is because the influx of foreign investment will be accompanied by the required capital items that Indonesia does not fully own, so it is necessary to import capital goods from other countries. The results of this study are different from the research of Rijal et al. (2000); Malik & Chaudhary (2012) which shows the impact of increasing FDI causes a decrease in imports.

Government spending has a significant positive relationship with imports, where an increase in government spending can increase imports in Indonesia. This is because government spending is partly used to purchase capital goods originating from abroad. This is in line with the research of Narayan, S., & Narayan, P. K. (2004). However, these results are opposite or different where they show a significant negative relationship such as research conducted by Galebotswe, O., & Andrias, T. (2011) and Budha, B. B. (2014).

Economic openness has a significant positive relationship with imports, where the more open the economy can increase imports in Indonesia. The economy is increasingly open, the demand for imports of consumer goods and goods for production needs is increasing. This is in accordance with the research of Nteegah, A., & Mansi, N. (2017), namun contrary to the results of the research of Malik & Chaudhary (2012); Ekanayake, N. (2016), which shows a significant negative relationship between economic openness and imports.

3. Economic Openness, Government Spending and Foreign Investment for Economic Growth in Indonesia

Mathematically the result of regression can be expressed in the following equation:

\[ LGDP \ t = 2.9639 + 2.17E-07NEX t - 0.0012INF \ t + 0.7832LFDI \ t + 0.1500LGGE \ t + 0.0055OPN \ t + u \ t \ldots \]

(3)

\[
(0.0003) *** (0.8662) (0.5414) (0.0000) (0.0526)* (0.0222)** \\
R^2 = 0.9902 \\
R = 0.9887 \\
F = 687.5506 \\
Prob = (0.0000)***
\]

Net Export (X-M) has a positive unidirectional relationship but is not significant to economic growth, where net exports increase, it cannot significantly increase Indonesia's economic growth. This is because the increase...
in exports can be accompanied by an increase in imports, so that net exports cannot have a major impact on Indonesia’s economic growth. This research is in line with that conducted by Mukit (2020), but in the opposite direction to Akaper & Shamadeen (2017) and Blavasciu Nate et al. (2020), which shows a decline in economic growth with an increase in exports and imports.

The development of inflation occurs has a unidirectional relationship but its effect is not significant on economic growth, where if inflation increases, it cannot significantly increase the pace of Indonesia’s economic growth. This is due to the increase in inflation even though the price of output increases but is also followed by an increase in the price of inputs of production factors, so that the added value obtained is relatively low. The results of this unidirectional study are in accordance with the research of Bibi (2014), even having a significant influence on Jilenga et al (2016); Behera (2014).

Foreign Direct Investment (FDI) has a positive and significant relationship with economic growth, where an increase in FDI can increase Indonesia’s economic growth. This is because the influx of foreign investment can increase domestic output production, through the adoption and transfer of technology of foreign companies. This research is in the same direction as Moudatsou (2003); Koojaroenprasit (2012); Ullah, F., & Rauf, A. (2013); Hamoudi & Aimer (2017), unidirectional but not significant in the study of Jilenga et al (2016); Hobbs et al. (2021). But contrary to the research of Mihaela et al. (2017).

Government spending has a significant positive relationship with the pace of economic growth, where an increase in government spending can increase domestic consumption. Increased government spending has caused aggregate demand to increase in the form of both routine spending and development spending. Results according to Nduka et al. (2013); Oladele et al. (2017); Kryeziu & Durguti (2019); Malefane (2020); in the same direction but not significant influence on the research of Uddin & Khanam (2017). However, it is not significant in the research of Grubaugh (2015); Olubukun et al. (2016).

Economic openness has a significant positive relationship with the pace of economic growth, where the more open the economy can increase the pace of economic growth in Indonesia. With economic openness, the market is getting wider which has an impact on increasing the economies of scale of export products that are greater for Indonesia. These results are identical to the research of Kryeziu & Durguti (2019); Moudatsou (2003); but not significant, but opposite but not significant influence on Al-Edary's research (2013); Nduka et al. (2013); Hasnul (2015); Grubaugh (2015); Rizavi (2010). Even the opposite influences are negative and significant are the studies conducted by Mehrara & Firouzjae (2011); Aluthge et al. (2021).

IV. CONCLUSION

The increase in exports for Indonesia is one way that can be done to offset the increase in imports, so that net exports continue to increase to be able to encourage sustainable economic growth. Several important policies must be carried out for efforts to increase exports, in addition to increasing government spending, namely: attracting foreign investment in addition to controlling currency exchange rates against the dollar, as well as controlling the rate of inflation at reasonable limits.

Increased government spending is effective in improving facilities and infrastructure in order to encourage exports with the increasing openness of foreign trade and investment. Besides that, with the increasing opening of the economy, it can provide a wider market for the increase of Indonesian export products through an increasingly large production scale. Especially with the entry of foreign companies with more advanced technology, domestic companies can adopt and transfer technology in the development of their export products.

In Indonesia, in 2020 & 2021 government spending is prioritized for the quality of Human Resources, namely the transformation of health in the quality of education, the transformation of social protection to the acceleration of infrastructure. In addition, industrial revitalization, bureaucratic reform, and improvement of the green economy with the provision of various incentives. By consistently paying great attention to government spending, it is hoped that the Indonesian economy will continue to experience high growth. (ppid.bnpp.go.id)

Foreign Direct Investment (FDI) affects gross domestic product (GDP) growth, especially FDI which is directed towards export-oriented industries. Foreign capital brings not only money and machinery but also engineering skills. He opened up remote areas and worked on new, untapped sources.

In Indonesia, to facilitate FDI licensing, all ministries delegate the issuance of permits to the Investment Coordinating Board, One Stop Service. The Indonesian government simplified licensing to shorten the time. Through one-stop integrated service, time is very short. The FDI facilities provided by the government will attract foreign investors.
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