International Journal of Economics, Business and Accounting Research (IJEBAR)
Peer Reviewed – International Journal
Vol-5, Issue-3, September 2021 (IJEBAR)
E-ISSN: 2614-1280 P-ISSN 2622-4771
https://jurnal.stie-aas.ac.id/index.php/IJEBAR

DETERMINANTS OF INDONESIA NON-OIL AND GAS EXPORTS TO NON-TRADITIONAL MARKET

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Abstract: Indonesia has considerable opportunities to export non-oil/gas to various countries. Non-traditional market is considered to have great potential for increasing non- oil exports. This study aims to estimate the effect of GDP of export destination countries, inflation of export destination countries, economic openness of export countries and the Indonesian exchange rate against the US dollar to Indonesia non-oil exports to non-traditional trading partner countries. The analytical method in this study uses descriptive statistical analysis and panel data regression, the results show that REM is the selected model. The GDP has a significant and positive affect to Indonesia's exports, while exchange rate has no effect on Indonesia'a exports, inflation having a significant and negative effect to Indonesia'a exports, and economic openness having an significant and positive effect to Indonesia'a exports. Indonesia needs to diversify exports to non-traditional countries and cannot rely solely on exports to major trading partner countries.

Keywords: *exports, non-traditional markets, GDP, inflation, exchange rates, economic openness*

1. Introduction

A country is said to be an open economy if they are participating in export and import activities (Mankiw, 2006). From a macroeconomic point of view, an export-based economy has advantages such as export activities that will bring in cash inflows in the form of foreign currency as payment for products sold abroad. The foreign exchange received will increase the country's foreign exchange reserves which in the end will strengthen the country's economic fundamentals. Export activities are able to absorb a lot of workers, especially for non-oil and gas exports. It will make it easier for a country to achieve the goal of economic independence. Countries that rely on national needs by importing goods from outside will be easily affected by economic turmoil.

Indonesia is an archipelagic nation with abundant natural resources, considerable amount of oil and gas reserves, minerals and agriculture and plantation products. In an effort to diversify exports to commodities other than oil and gas, the Indonesian government focus more on exports of agricultural products such as cocoa, coffee, palm oil, natural rubber and white pepper (DG of plantation, 2017). The leading commodities in the agricultural exports are rubber and palm oil, roughly seventy percent of Indonesia's palm oil product is exported and even though the number is fluctuating, the trend look promising with an upward trend (UN, 2009). Indonesia and Malaysia are two largest exporter of palm oil in the global market. Palm oil export has become Indonesia's main source of foreign exchange income from non-oil and gas export (Paoli, et.al, 2013)

The increase in Indonesia's non-oil and gas exports in the Jokowi-JK government (2015-2019) is expected to experience several obstacles. One of these obstacles stems from unfavorable external conditions, particularly the economic slowdown in Indonesia's main trading partner countries. The economic slowdown in the majority of Indonesia's main trading partner countries has caused the imports of these countries to decline. This has an impact on the decline in Indonesia's exports to trading partner countries, because the movement of Indonesia's exports depends on the import demand of these countries. Economic conditions that are currently experiencing a slowdown have also suppressed the economic growth of a number of countries, including Indonesia and Indonesia's main trading partner countries. Indonesia needs to diversify exports to non-traditional countries and cannot fully rely on exports to major trading partner countries (Ministry of Trade, 2015).

In the results of the study by the Center for Foreign Trade Policy, entitled "Study of Export Development Potential to Non-Traditional Markets," traditional countries are defined as countries (markets) that have criteria in the form of exports to non-traditional markets. The partnership between the two countries has lasted for more than 40 years, consumption is more than 50% of the Gross Domestic Product (GDP) structure and net exports is less than 5% to the GDP structure. Traditional countries can also be said to be the main trading partners of Indonesia which have had strong economic cooperation relations and have been the destination of export market for a long time. Non-traditional countries are economically potential and prospective countries as market destinations for Indonesia. According to the study conducted by Sabaruddin (2017) regarding the clustering of Indonesian export market destinations stated that the traditional countries of export destinations are the United States, Japan, and China. While the non-traditional countries are Saudi Arabia, India, and Vietnam.

The Ministry of Trade is also incessantly making trade and economic agreements with non-traditional markets in an effort to find new markets to increase Indonesia's exports. The government needs to make intensification and extensification efforts in overcoming the trade balance deficit (Lukita, 2019). Intensification can be done on existing products. Meanwhile, extensification can be done by opening new markets.

To open new markets, there are several important factors that need to be considered so that later the trade cooperation can continue in the long term and can be relied on. Research on factors that influence Indonesian exports has been carried out, including research by Mahendra and Kesumajaya (2015) which shows that the US dollar exchange rate and credit interest rates affect Indonesian exports. Research has also been carried out by Pramana and Meydinawathi (2013), the study shows that the US dollar and PMA exchange rates have an effect on Indonesian exports. The Ministry of Trade has also conducted various studies on Indonesia's export projections, in which the factors that are considered to affect the volume of Indonesia's exports are divided into two, namely internal factors and external factors. Internal factors are factors that come from the export commodity industry itself which includes; (1) the relative price of commodities and prices relative to other substitute commodities, (2) production capacity of related commodities, (3) investment and capital goods. External factors are factors that come from outside the industry, among others; (1) real exchange rate, (2) GDP, (3) fuel prices, and (4) government policies.

GDP can be one of the factors that influence international trade activities, GDP is expressed as total production and becomes the total income or national income of a country, a higher GDP value indicates a country's economy is getting better has the potential to increase the demand for imported goods needed by the country (Lipsey, Purvis and Stenier, 1995).
The value of inflation shows the process of increasing prices in the economy. Inflation can have a positive or negative effect on the economy (Krugman, 2005). High inflation causes the

price of goods to become more expensive, the price of expensive goods makes people reduce the consumption of an item which means the demand for goods decreases. The higher inflation rate will make domestic goods expensive and the competitiveness of domestic goods with imported goods will lose because imported goods are cheaper, this will make the country's import value increase, which means the volume of Indonesia's exports to that country will be higher.

Economic openness or openness describes how a country involves other countries in its economic activities. Economic openness is a neutral form that has an impact on life, depending on how we treat it. Economic openness can strengthen as well as weaken, scary as well as prioritize, it all depends on how the state responds (Friedman, 2005). The higher the economic openness of a country, the higher the opportunity for that country to import. Economic openness can increase welfare for the country through opening up greater market access, encouragement to achieve higher economic efficiency and competitiveness, including opening up opportunities for employment (Krisharianto and Hartono, 2007). The exchange rate or exchange rate is a comparison of the value or price of the two currencies. In conducting trade transactions between countries, they use foreign currencies instead of using their country's currency. Exchange rate fluctuations will affect export activities, where the exchange rate can be used as a tool to increase export competitiveness (Salvatore, 2014). A depreciating currency value makes raw materials expensive, thereby reducing exports, when an appreciating currency value makes goods prices cheap and increases exports (Sukirno, 1999).

Indonesia's exports to various non-traditional countries have a positive trend, although Indonesia's exports to Saudi Arabia and Thailand has been fluctuating in recent years. Indonesia needs to expand its non-oil and gas export trade in the midst of an economic slowdown. Non-traditional markets are considered to have considerable potential for increasing Indonesia's non-oil exports. Exports have become a concern in spurring economic growth in line with the shift in industrialization strategy from an emphasis on import substitution industries to export promotion industries. Exports have an important role in the future, especially with the WTO negotiations being rolled out towards the future world trade without barriers (Basri, 2002). Reflecting on the importance of export in promoting growth and the potential of non-oil and gas export to Indonesia non-traditional market, this study plan to investigate determinants of such exports.

2. Research Method

2.1 Type of research and data source

This study is a quantitative research that utilized panel data regression method. The cross section of the data was five countries that is considered to be a non-traditional trade partner of Indonesia, namely Vietnam, Philippines, Thailand, India, and Saudi Arabia. The period of research spanned for four years from 2014 to 2018, this time frame was chosen due to the limited availability of data. The data sourced from the World Bank, Bank Indonesia, Statistics Indonesia and the ministry of trade.

2.2 Operational definition of research variables

The dependent variable of this study is Indonesian non-oil and gas export, while the independent variables are GDP, inflation rate and trade openness of five non-traditional trade partner, and the exchange rate of Indonesian Rupiah to US Dollar.

2.3 Analysis tools and model

E-ISSN: 2614-1280 P-ISSN 2622-4771
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This research uses panel data regression method. In using the analytical tools in this study, initial model testing conducted to find which model is the best, whether the Fixed Effect Model (FEM), Common Effect Model (CEM) or Random Effect Model (REM). The estimator model formulation is:

$$\text{Log EXP} = \beta_0 + \beta_1 Log\text{GDP}_{it} + \beta_2 Inf_{it} + \beta_3 Log\text{R}_{it} + \beta_4 OPN_{it} + \text{e}$$

EXP is total Indonesian exports in million dollars, GDP is Gross Domestic Product of non-traditional trade partner countries in billion dollars, Inf is inflation rate of non-traditional trade partner countries in percentage, OPN is trade openness of non-traditional trade partner countries in percentage and R is Rupiah exchange rate against US Dollar in Rupiah, i is cross section and t represents the time series.

3. Results and Discussion

3.1. Results

In selecting the best estimation model, the Chow test and Hausman test are carried out

3.1.1 Chow test

The Chow test is a test used to determine the best model between the Common Effect Model (CEM) and the Fixed Effect Model (FEM) with the hypothesis: Ho = CEM is better than FEM

Ha = FEM is better than CEM

Ho is rejected if the probability value is less than α

Table 1. Chow Test Result

Effects Test	Statistic	d.f.	Prob.
Cross-section Chi-square	92.836627	4	0.0000*

*significant at α 0,01 **significant at α 0,05 ***significant at α 0,1

The test results in table 1 shows that the probability value is 0.000 < 0.01, which means that Ho is rejected and the best model is the Fix Effect Model (FEM).

3.1.2 Hausman test

The Hausman test was carried out after the results of the Chow test showed that FEM was the best model. Hausman test is used to select the best model between Fix Effect Model (FEM) and Random Effect Model (REM) with the hypothesis Ho = REM is better than FEM, Ha = FEM is better than REM. Ho is rejected if the probability value is less than α

Table 2. Hausman Test Result

Test Summary	Chi-Sq. Statistic	Chi-Sq. df.	Prob.
Cross-section random	0.000000	4	1.0000

*significant at α 0,01 **significant at α 0,05 ***significant at α 0,1

The test results in table 2 shows that a probability value of 1.00 > 0.01 which means that Ho is accepted and the best model is the Random Effect Model (REM).
The results of testing the selection of the best model show that the best model is the Random Effect Model (REM). The complete estimation results of the Random Effect Model (REM) are shown in table 3.

Table 3. Estimation Result

$$\text{Log EXP} = -11.30 + 0.937\ Log\ PDBit - 0.018\ infit + 0.052 Log\ Rit + 0.009\ OPNit$$

Std.Error	4.912	0.168	0.005	0.422	0.002
t-statistic	-2.300	5.579	-3.472	0.124	4.373
Prob.		(0,000)*	(0.0024)*	(0.9021)	(0.0003)*

$R2$ = 0.575516; Prob(F-statistic) = 0.001283*

*significant at α 0,01 **significant at α 0,05 ***significant at α 0,1

Table 3. Shows that the variable GDP of non-traditional trading partner countries (GDP), economic openness of non-traditional trading partner countries (OPN) has a significant and positive effect on Indonesia's non-oil and gas exports. While the variable of inflation of non-traditional trading partner countries (inf) has a significant and negative effect on Indonesia's non-oil exports. The variable of exchange rate of the rupiah against the dollar (R) has no significant effect on the export of non-oil and gas in Indonesia, this result is consistent with some of the hypothesis.

3.2 Discussion

Inflation also affects the price of imported goods which will have an impact on the demand for goods. In theory, the value of inflation will make domestic goods experience price increases and lose competitiveness with imported goods because imported goods are cheaper, as a result, will increase demand for imported goods and will increase the volume of exports of other countries (Ball, 2005). However, the results of the study show that the inflation value of export destination countries has a negative relationship with Indonesia's export volume. This may be because the inflation rate in Indonesia published by the World Bank in several years shows that Indonesia's inflation is higher than export destination countries. In 2015 Indonesia's exports decreased and Indonesia's inflation rate was greater than India's. World bank data shows that Indonesia's inflation rate in 2015 was 3.9% and India's inflation was 2.27%. In the same year, Thailand's inflation rate was 0.72% and Indonesia's exports to Thailand also decreased. Because Indonesia's inflation rate is greater than that of export destination countries, the impact of domestic inflation is greater, resulting in a decline in the value of Indonesia's exports.

GDP of export destination countries is considered a factor that affects Indonesia's exports to various destination countries. The results of the study show that GDP has a significant effect on the volume of Indonesia's non-oil and gas exports. The value of GDP can see how much the population's ability to consume a good or service, the higher the GDP, the higher the purchasing power of the people. In a study conducted by the Ministry of Trade of the Republic of Indonesia, it also shows that the GDP of the importing country is a proxy for income shows a positive and significant influence on the demand for agricultural commodity exports. The economic openness of export destination countries also facilitates Indonesia's export activities, the results of the study show that economic openness has a positive and significant effect on the value of Indonesia's non-oil and gas exports. One of the impacts of globalization is that the economy of a country will be increasingly integrated with other countries. The integration of these countries is expected to increase cooperation between countries. International trade, namely exports and imports, is a representation of a country's economic openness (Krisharianto and Hartono, 2007).

Not only factors that exist in the export destination country but also factors from within the country, namely the exchange rate or the exchange rate of the rupiah against the dollar. In theory, a weak domestic exchange rate makes domestic goods cheaper than foreign goods, this change encourages domestic and foreign consumers to buy more domestic goods and buy less goods from other countries. As a result, exports will increase and imports will decrease (Mankiw, 2006). This theory still applies if in this study the exchange rate data used is each export destination country, when the exchange rate of the export destination country weakens, the demand for foreign goods decreases, meaning that Indonesia's exports to export destination countries will decrease. However, judging by the results of the study, it shows that the exchange rate variable has no significant effect on the volume of Indonesia's non-oil and gas exports. this can be due to the effect of a weakening rupiah cannot instantly affect exports, besides that commodity export prices are falling so that the effect of the weakening of the rupiah is very small (CNN Indonesia, 2018). trade cooperation uses a contract system where the price of goods traded uses the exchange rate that has been set at the beginning of the contract, so when the exchange rate fluctuates it will not affect exports because the amount of goods to be exported and the exchange rate have been determined at the beginning of the agreement.

4. Conclusion

Based on the results of the study, it can be concluded that the variable of GDP of non-traditional trade partner countries has a significant positive effect on Indonesia's non-oil exports with a coefficient value of 0.937. The inflation variable has a significant negative effect on Indonesia's non-oil and gas exports with a coefficient value of 0.018. The variable of economic openness of non-traditional trade partner countries has a significant positive effect on Indonesia's non-oil exports with a coefficient value of 0.009, while the variable of Indonesian exchange rate against the dollar has no significant effect on Indonesian exports to non-traditional trade partner countries.

Together, the variables of GDP, inflation, trade openness of non-traditional trade partner countries, and the Indonesian exchange rate against the dollar affect the volume of Indonesia's non-oil and gas exports to non-traditional market. By knowing the variables that affect Indonesia's non-oil and gas exports, it is hoped that the government and relevant agencies will be able to maintain the market by encouraging good trade relations with various non-traditional export destination countries. The government also need to re-expand trade with other countries so as not to depend only on certain countries. Although the rupiah exchange rate against the dollar is not significant to the volume of Indonesia's non-oil and gas exports, the stability of the rupiah exchange rate against the dollar must be maintained so that there is no appreciation or depreciation that causes foreign trade to decline. To continue to increase exports, Indonesia can look for other export sources by building a manufacturing industry and encouraging import substitution.

The limitation of this study lies on the lack of variety of non-traditional trade partner countries and variables chosen, future research can add the variation of samples by taking representative countries from continents, regions or organizations (e.g: OECD, G20, MENA, etc).

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