DETERMINANTS OF IMPORT IN ASEAN ECONOMIC COMMUNITY

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ARTICLE INFO	ABSTRACT
	Introduction: Imports are an important component of economic development in developing countries, including in the ASEAN Economic Community. **Purpose:** The aims of this study to analyze the determinants of import in ASEAN Economic Community. **Methodology/Approach:** The research method used is panel data analysis from 2010-2019. The research variables include imports as the dependent variable and export variables, exchange rates, population, inflation, GDP and interest rates as independent variables. This study is to analyze the determinants of imports in the economies of ASEAN community countries starting from the results of the Chow test and Hausmen test which compare the static and dynamic fixed effect panel data analysis models. **Findings:** The results of this study indicate that imports for ASEAN economic community are influenced by the variables of exports, FDI and population. The results of this study also show that imports for ASEAN economic community are a necessity to support their economic development. **Originality/Value/Implication:** The conclusion and recommendation from this research is that imports are an important component in economic development in ASEAN economic community, so it is necessary to have an integrated policy among ASEAN economic community to build economic cooperation to reduce economic dependence from outside. ASEAN economic community need to improve economic efficiency and international competitiveness to encourage exports of flagship products in international markets. Doi: https://doi.org/10.26668/businessreview/2023.v9i1.4043

DETERMINANTES DA IMPORTAÇÃO NA COMUNIDADE ECONÔMICA DA ASEAN

RESUMO

Introdução: As importações são uma componente importante do desenvolvimento econômico nos países em desenvolvimento, incluindo na Comunidade Econômica da ASEAN.

Objetivo: Os objetivos deste estudo para analisar os determinantes da importação na Comunidade Econômica da ASEAN.

Metodologia/Abordagem: O método de pesquisa utilizado é a análise de dados do painel de 2010-2019. As variáveis de pesquisa incluem as importações como variável dependente e as variáveis de exportação, as taxas de câmbio, a população, a inflação, o PIB e as taxas de juros como variáveis independentes. Este estudo tem como objetivo analisar os determinantes das importações nas economias dos países da comunidade ASEAN a partir dos resultados do teste Chow e do teste Hausmen, que comparam os modelos de análise de dados do painel de efeitos fixos estáticos e dinâmicos.

Conclusões: Os resultados deste estudo indicam que as importações para a comunidade econômica da Asean são influenciadas pelas variáveis das exportações, do IDE e da população. Os resultados deste estudo mostram também

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que as importações para a comunidade econômica da ASEAN são uma necessidade para apoiar o seu desenvolvimento econômico.

Originalidade/Valor/Implicação: A conclusão e recomendação desta pesquisa é que as importações são um componente importante no desenvolvimento econômico da comunidade econômica da Asean, então é necessário ter uma política integrada entre a comunidade econômica da Asean para construir a cooperação econômica a fim de reduzir a dependência econômica de fora. A comunidade econômica da ASEAN precisa de melhorar a eficiência econômica e a competitividade internacional para incentivar as exportações de produtos emblemáticos nos mercados internacionais.

Palavras-chave: Risco do País, Competitividade Econômica, Comércio Internacional.

DETERMINANTES DE LA IMPORTACIÓN EN LA COMUNIDAD ECONÓMICA ASEAN

RESUMEN

Introducción: Las importaciones son un componente importante del desarrollo económico de los países en desarrollo, incluida la Comunidad Económica de la ASEAN.

Propósito: Los objetivos de este estudio para analizar los determinantes de la importación en la Comunidad Económica ASEAN.

Metodología/Enfoque: El método de investigación utilizado es el análisis de datos de panel de 2010-2019. Las variables de investigación incluyen importaciones como variable dependiente y exportaciones como variables independientes: tasas de cambio, población, inflación, PIB y tasas de interés. Este estudio tiene como objetivo analizar los determinantes de las importaciones en las economías de los países de la ASEAN a partir de los resultados de la prueba de Chow y la prueba de Hausmen, que comparan los modelos de análisis de datos de panel de efectos fijos estáticos y dinámicos.

Hallazgos: Los resultados de este estudio indican que las importaciones para la comunidad económica de la ASEAN están influenciadas por las variables de exportaciones, IED y población. Los resultados de este estudio también muestran que las importaciones para la comunidad económica de la ASEAN son una necesidad para apoyar su desarrollo económico

Originalidad/Valor/Implicación: La conclusión y recomendación de esta investigación es que las importaciones son un componente importante en el desarrollo económico de la comunidad económica de la ASEAN, por lo que es necesario tener una política integrada entre la comunidad económica de la ASEAN para construir la cooperación económica para reducir la dependencia económica desde el exterior. La comunidad económica de la ASEAN necesita mejorar la eficiencia económica y la competitividad internacional para alentar las exportaciones de productos emblemáticos en los mercados internacionales.

Palabras clave: Riesgo País, Competitividad Económica, Comercio Internacional.

INTRODUCTION

The impact of imports on the economy is explained by the effect of international trade recorded in the balance of payments. On the balance of payments, changes in imports compared to exports will have an influence, thereby affecting the flow of trade and investment funds compared to obligations that must be paid and impacting changes in macroeconomic indicators. Specifically, the ASEAN regional economy has become a magnet for world economic growth due to its rich natural resources and large population. In this case, imports are an unavoidable economic activity for ASEAN Economic Community countries to meet their needs for capital goods and raw materials to support their economic development. It can be understood through its impact on reducing the number of foreign exchange reserves in the balance of payments. (Bonfiglioli, 2020, Ciani, 2021)

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Furthermore, empirically, imports play a role in supplying raw and auxiliary materials for industry and domestic economic sectors to increase economic growth and job creation. Hence, the role of imports in the economy is related to the sustainable development process, which involves economic and non-economic aspects (Yuliadi, 2020, Song et al., 2021) Apart from economic considerations, the considerations of an economy importing goods and services are also technical and political to maintain bilateral and multilateral relations between trading partner countries. Moreover, import activities to meet the needs of export goods and domestic needs will increase economic development. However, in the long term, dependence on imports can also jeopardize sustainable development.

THEORETICAL FRAMEWORK

Imports are a component of national income, as in the identity $Y = C + I + G + (X - M)$. Imports are essential in developing countries' development to meet the needs of capital goods and raw materials. The development of imports also indicates the existence of economic dependence on other countries as an implication of economic openness between countries. The impact of imports on the economy determines the direction of a country's economic development through its effect on the trade balance. In this regard, the controversy regarding the relationship between the trade balance and economic development is an interesting issue to study (Schram et al., 2020).

In addition, the Solow economic growth model includes technological innovation as a response to institutional, bureaucratic, and legal incentives and the integration of technology developments in economic development. The illustration of economic development is described below:

Figure 1: The Partial Equilibrium in International Trade
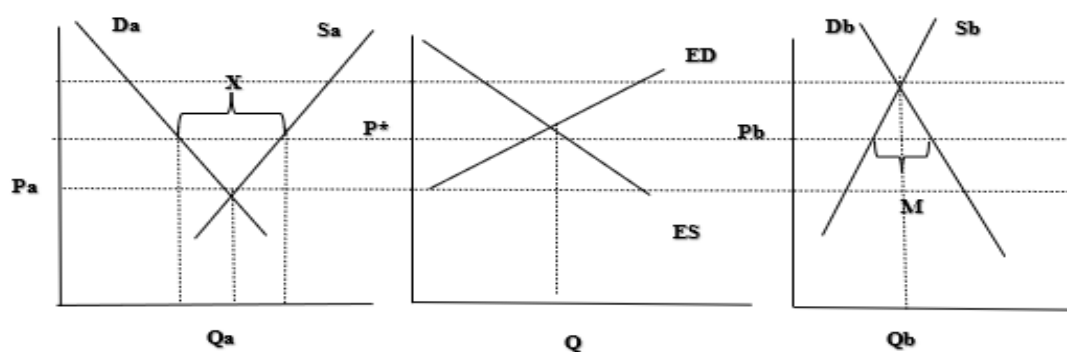
Source: Salvatore, *International Economics*, 1997.

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The figure above reveals how imports of goods and services occur due to the price gap between the two countries caused by differences in economic potential, consumer tastes, technological developments, and economic policies. The left panel depicts a country with an economic surplus. In addition, imports of goods and services have implications for the economic development of developing countries because several types of goods and services cannot be produced independently. Economic development - which some components are still imported - is a sustainable economic process that involves goods and capital, both from within the country and abroad, to improve economic welfare for the community (Barth et al., 2001).

Export and import transactions in international trade will create global economic efficiency, i.e., achieving international economic balance. Simultaneously, imports and exports will impact the allocation of economic resources and macroeconomic performance, as formulated in Rybczynski's theorem. It is proposed that if there is a change in input, it will affect a larger change in output, which is intensive in utilizing that input. In the international trade context, a change in the production component of the exported goods will impact the volume of commodities in international trade. The formulation of Rybczynski's theorem is as follows (Romer, 1996):

$$y_1 = k_1 H + k_2 L \tag{1}$$

$$k_1 = \frac{a_{22}}{a_{11}a_{22} - a_{12}a_{21}} \tag{2}$$

$$k_1 = \frac{-a_{12}}{a_{11}a_{22} - a_{12}a_{21}} \tag{3}$$

$$\frac{\Delta y_1 / y_1}{\Delta H / H} = \frac{H \partial y_1}{y_1 \partial H} = \frac{H}{y_1} k_1 = \frac{k_1 H}{k_1 H - k_2 L} \tag{4}$$

where:

$$k_2 < 0, \tag{5}$$

$$k_1 H > k_1 H + k_2 L \tag{6}$$

$$\frac{H \partial y_1}{y_1 \partial H} > 1 \tag{7}$$

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Moreover, importing goods and services will greatly impact the overall economic development of developing countries, such as in the ASEAN Economic Community. Economic development is a process of increasing economic capacity in producing goods and services to meet the community's economic needs and improve people's welfare. In this case, imports of goods and services are influenced by economic and non-economic factors, such as the stability of the exchange rate, inflation rate, interest rate, population, economic growth, and trade policies applied. (Katircioglu et al., 2017; Purnamasari et al., 2020).

For this reason, research on the determinants of imports in the ASEAN Economic Community is vital to determine the factors determining imports in ASEAN countries so that integrated policies can be formulated to realize sustainable development for ASEAN countries (Song et al., 2021; Yuliadi, 2020).

RESEARCH METHODOLOGY

The method applied in this research was by analyzing panel data, a combination of time series and cross-section data. The data were taken from World Bank data from 2011 to 2022, covering data from all ASEAN countries: Indonesia, Singapore, Malaysia, Thailand, Laos, Cambodia, Vietnam, Brunei Darussalam, and the Philippines. It comprised data on currency exchange rates, gross domestic product, population, foreign direct investment (FDI), foreign debt, inflation, interest rates, imports, and exports. The research estimation model for the determinants of exchange rate fluctuations of ASEAN countries was formulated as follows (Intriligator et al., 1996):

$$Y = \alpha_o + \alpha_1 X_{1it} + \alpha_2 X_{2it} + \alpha_3 X_{3it} + \alpha_4 X_{4it} + \alpha_5 X_{5it} + \alpha_6 X_{6it} + \alpha_7 X_{7itt} \qquad (8)$$

Where:

Y = Imports in country-i in year-t
X_{1it} = Gross domestic product (GDP) in country-i in year-t
X_{2it} = Total population in country-i in year-t
X_{3it} = Foreign direct investment (FDI) in country-i in year-t
X_{4it} = Exports in country-i in year-t
X_{5it} = Exchange rate in country-i in year-t
X_{6it} = Inflation in country-i in year-t
X_{7it} = Interest rate in country-i in year-t

The research analysis on the determinants of imports in the ASEAN economic community was carried out using a static and dynamic panel data regression model. The testing

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stages were the Chow and the Hausman tests to determine the estimation model of panel data regression, whether the fixed-effect model (FEM), random-effect model (REM), or common-effect model (CEM). To get the best model, a dynamic panel data analysis model, namely the seemingly unrealized regression (SUR), was also used to get a more efficient regression coefficient estimation result. Meanwhile, the individual significance test with t-test and F-count was to test the significance of the variable regression simultaneously.

EMPIRICAL FINDINGS AND RESULTS

The empirical findings from research on imports of ASEAN Economic Community countries by applying the static analysis model of panel data fixed-effect model (FEM), random-effect model (REM), and common-effect model (CEM) obtained the following results:

Table 1: Estimation Results of Panel Data Regression for Import Equation in the ASEAN Economic Community

Variable	Analysis Model		
	Common Effect Model	**Fixed Effect Model**	**Random Effect Model**
Constant	0.6475 (0.650)	-3.3416 0.774	0.6475 (0.688)
FDI	0.0726** (0.012)	0.0341 (0.223)	0.07264** (0.008)
Exchange rate	-0.4003** (0.038)	0.1950 (0.406)	-0.04003** (0.032)
Exports	0.7410** (0.00)	1.2515** (0.00)	0.74108** (0.00)
Population	0.0541 0.317)	-0.0672 (0.930)	0.05401 (0.311)
Interest rate	0.0086 (0.332)	0.0065 0.414	0.0085 (0.326)

Source: Secondary data.

The Chow and Hausman test results showed that the suitable model was the fixed-effect model, indicating that only the export variable affected the imports of the ASEAN Economic Community countries. Meanwhile, the common and random effect model results revealed that the FDI, exchange rate, and export variables did not impact imports in the ASEAN Economic Community countries. (Schram et al., 2020). In addition, the fixed-effect model estimation results were not ideal since only one variable significantly affected imports, namely the export variable, while the other variables did not significantly affect imports. To get the ideal result, a dynamic model of panel data regression analysis was formulated by applying the seemingly unrealized regression (SUR) analysis model. The dynamic model of the seemingly unrealized regression (SUR) analysis model was then applied to get more efficient regression coefficient estimation results. Here are the dynamic estimation results of panel data regression models in

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the analysis of import determinants of ASEAN Economic Community countries, with the application of the seemingly unrealized regression (SUR) model:

Table 2: Estimation Results of Panel Data Regression with Seemingly Unrealized Regressive (SUR) Model

Variable	Seemingly Unrealized Regressions (SUR)	
	Coefficient	Probability
Constant	8.9192	0.448
FDI	-3.4316	0.004***
Exchange rate	1.3415	0.000***
Exports	0.9774	0.000***
Population	1.435	0.000***
Interest rate	0.0604	0.439

Source: Secondary data.

The estimation results uncovered that the exports, FDI, exchange rates, and population variables significantly affected imports in the ASEAN Economic Community countries. Meanwhile, the interest rate variable had no significant effect on changes in the import value of the ASEAN Economic Community countries. In addition, the regression coefficient value of the export variable in the seemingly unrealized regressions SUR analysis model was 0.9774. It means that an increase in exports by the US $ 1 million will increase imports in the ASEAN Economic Community countries by the US $ 0.9774 million. This phenomenon confirms that imports of goods and services of ASEAN countries are influenced by the size of their exports (Chen, 2017, Maeir, 2010). It denotes a link between the export and the import of goods and services, where some components of the export of goods still rely on the supply of imported goods for their development needs. Besides, there are still a lot of export commodities whose components still need to be imported, such as electronic products, health and education equipment, basic chemical products, and basic materials for manufacturing medium and large industries (Blanchard et al., 2002; Brinkmeyer et al., 2015).

Empirical findings also revealed that the regression coefficient of the foreign direct investment (FDI) variable was negative and significant at -3.4316. It indicates that an increase in foreign direct investment (FDI) of US$ 1 million will reduce imports by US$3.4316 million. This condition suggests that the goods and services produced by foreign companies could partially meet domestic needs, thereby reducing the import burden. In this regard, the multinational companies entering the ASEAN Economic Community countries will also increase the production capacity of capital goods and other supporting goods, thus reducing imports in ASEAN Economic Community countries (Christensen et al., 2016; Dedola et al., 2005; Maier, 2010).

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In this study, the imports in the ASEAN Economic Community countries were also influenced by the development of their currency exchange rates. It can be seen from the regression coefficient value of the exchange rate variable, which was positive and significant at 1.3415. In other words, an increase in the exchange rate by 1 point will increase imports by US $ 1.3415 million. This empirical finding implies that changes in the exchange rate significantly affect the performance of imports in the ASEAN Economic Community countries. This condition is related to multinational companies operating in these ASEAN countries, whose production components still have to be imported (Olubiyi et al., 2019; Mwangi, 2020; Lubik, 2014).

Meanwhile, in this research, the population variable had a positive and significant effect, with a coefficient value of 1.435. It signifies that an increase of 1 person in the population will encourage an increase in imports of US$ 1.435 million. This condition entails that the economies of the ASEAN Economic Community countries still need to meet the needs of the population from imports. Consequently, the higher the population, it will encourage the increase in imports (Devadason et al., 2018; Gali, 2008).

CONCLUSION AND RECOMMENDATION

Empirical findings on the determinants of imports in the ASEAN Economic Community countries demonstrated the crucial role of imports in the context of economic development in these countries. This condition implies that the economic dependence of the ASEAN Economic Community countries on imported goods is still relatively high. For this reason, the efforts need to be made by the ASEAN Economic Community countries by continuing to develop strategic cooperation among them to take advantage of economic potential, thereby encouraging the development of leading economic sectors in each of these countries (Kia, 2001; Chen, 2017). Steps to continuously improve the investment climate to attract foreign and domestic investors are also demanded to foster sustainable economic growth. In addition, the government and business actors should continue to develop strategic partnerships to encourage the emergence of business actors in leading economic sectors to create jobs and improve superior products. Thus, it can reduce dependence on imported goods to realize sustainable economic development (Ibrahim, 2017; Purba & Fitrawaty, 2021).

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