Examining The Effect Of Domestic Direct Investment And Foreign Direct Investment On Gross Regional Domestic Product Of Sumatera And Kalimantan Islands

Doan Yoseptian Situmorang[1], Muh.Dion Tri Ananda[2], Tiara Marthadyta[3]
[1,2,3]Universitas Pembangunan Nasional "Veteran" Yogyakarta
Email: doanyoseptian@gmail.com[1], muhdion.a@students.amikom.ac.id[2], tiaramarthadyta10@gmail.com[3]

Abstrak
Perkembangan ekonomi dan pertumbuhan daerah sangat menarik untuk dibahas karena sangat berkaitan dengan aliran modal dalam dan luar negeri. Penelitian ini bertujuan untuk menguji pengaruh penanaman modal dalam negeri dan penanaman modal asing terhadap produk domestik regional bruto di Pulau Sumatera dan Kalimantan. Metode yang digunakan dalam penelitian ini adalah data panel. Data sekunder bersumber dari BPS dengan rentang waktu 2013-2022 di 10 provinsi di Pulau Sumatera dan 5 provinsi di Pulau Kalimantan. Hasil penelitian menunjukkan bahwa Penanaman Modal Dalam Negeri (PMDN) berpengaruh positif dan signifikan, namun Penanaman Modal Asing (FDI) tidak berpengaruh terhadap Produk Domestik Regional Bruto di Pulau Sumatera dan Kalimantan.
Kata Kunci: Penanaman Modal Dalam Negeri, Penanaman Modal Asing, Produk Domestik Regional Bruto, Data Panel.

Abstract
Economic development and regional growth are very interesting to discuss because they are strongly related to domestic and foreign capital flows. This study aims to examine the effect of domestic investment and foreign investment on gross regional domestic product in Sumatra and Kalimantan. The method used in this study is panel data. Secondary data is sourced from BPS with a time span of 2013-2022 in 10 provinces in Sumatra Island and 5 provinces in Kalimantan Island. The results found that domestic direct investment (DDI) has a positive and significant effect, but foreign direct investment (FDI) has no effect on gross regional domestic product on the island of Sumatra and Kalimantan.
Keywords: *Domestic Direct Investment, Foreign Direct Investment, Gross Regional Domestic Product, Panel Data.*

INTRODUCTION

The effect of domestic and foreign investment on the Gross Regional Domestic Product of the Sumatra and Kalimantan Regions has been a subject of great interest. The economic development and growth of these regions are closely linked to domestic and foreign capital flows. Investment plays an important role in shaping the economic landscape of each region. The influx of domestic and foreign capital not only affects Regional Gross Domestic Product, but also affects various other aspects of the regional economy. To understand the full scale of this impact, it is important to investigate the specific sectors and industries affected by these investments. In addition, examining the employment patterns, technological advancements, and overall socio-economic developments resulting from these investments can provide a comprehensive understanding of their influence on Sumatra and Kalimantan's GRDP (Winda & Falianty, 2023).

Government policies, such as tax incentives and subsidies, play an important role in attracting domestic investment. In addition, infrastructure development, including transportation networks and energy facilities, creates an enabling environment for businesses to thrive. This, in turn, has a direct impact on the Regional Gross Domestic Product of both regions. Certain sectors that benefit from domestic investment, such as manufacturing, agriculture, and services, also play an important role in driving the economic growth of Sumatra and Kalimantan. The jobs generated by these sectors not only contribute to the overall labor force but also provide opportunities for skills development and income generation among the local population. In addition, advances in technology and productivity resulting from domestic investment further strengthen regional economic output (Wang, 2022).

Foreign investment brings technology, and access to international markets, all of which have a profound impact on the GRDP of Sumatra and Kalimantan. The presence of a strong regulatory environment and political stability attracts foreign investors, leading to increased investment in sectors such as mining, energy, and telecommunications, among others. These investments contribute to the overall output of the regions and increase their competitive advantage in the global market.

In addition, the transfer of technology and knowledge from foreign investors to local businesses and labor increases productivity and the quality of output, thus having a positive impact on GRDP. Employment opportunities generated by foreign investment also contribute to the socio-economic development of Sumatra and Kalimantan (Chammearc & Astuty, 2023).

Understanding the specific factors that attract domestic and foreign investment to these areas is crucial in measuring the effect on GRDP. In addition, exploring differences in the sectors and industries that receive investment, and the resulting effects on employment, technology adoption, and income levels, will provide valuable insights into the overall economic impact of capital flows. By delving deeper into the factors influencing domestic and foreign investment and their consequent impact on various economic indicators, a more comprehensive understanding of the role of investment in shaping the economic landscape of Sumatra and Kalimantan can be achieved.

Therefore, this study aims to delve deeper into the influence of domestic investment and foreign investment on gross regional domestic product in Sumatra and Kalimantan Island.

LITERATUR REVIEW

Domestic Direct Investment (DDI)

Law No.25 Year 2007 article 1 states the definition of domestic capital is "capital owned by the Republic of Indonesia, individual Indonesian citizens, or business entities in the form of legal entities or not incorporated". Domestic Investment according to Law No.15 of 2007 is "an activity to invest to conduct business in the territory of the Republic of Indonesia carried out by domestic investors and using domestic capital".

The level of investment has a positive relationship with economic growth or GRDP. Domestic investment can be used by local governments for capital development which can later be realized into various projects to support development activities in a particular region.

Foreign Direct Investment (FDI)

Foreign direct investment or foreign investment according to Suparmoko (2002: 141) is an investment carried out by the owners of foreign capital in our country or obtaining a profit from the business carried out. An increase in FDI will increase economic capital in a region so that it will increase the production process of goods and services in the process. Another goal of investment is to realize the means of production which will encourage production activities in the future and can increase Gross Regional Domestic Product.

Economic Growth

Economic growth is a development in the economy that causes the production of goods and services in the community to increase. Economic growth in one period can be said to be positive if economic activity has increased and will be negative when economic activity has decreased (Sukirno, 2004).

Gross regional domestic product (GRDP) is an important indicator to see the economic conditions in a region in a certain period. GRDP in this study is the total value added generated by the total business units in a region or the total value of final goods and services produced by all economic sectors in a region (Arsyad, 2010).

RESEARCH METHODS

Data, Data Source, and Data Collection Method

The data used in this study is secondary data in the form of panel data. Panel data according to Widarjono (2018) is a combination of times series data and cross section data.

The observation year data or time series data used is 2013-2022 and the cross-section data of this study are 10 provinces on the island of Sumatra and 5 provinces on the island of Kalimantan.

This study uses two (2) independent variables to predict Gross Regional Domestic Product (GRDP), namely Foreign Direct Investment (FDI) and Domestic Direct Investment (DDI).

The required data is sourced from the central statistics agency (BPS) and then analyzed by the analysis method used.

Data Analysis Method

The analysis method used is quantitative descriptive data analysis method. This method analyzes data in quantitative form (numbers) and then describes the results of the analysis in words to reach a conclusion on the research results. The analysis in this study uses the panel data regression method with the Chow Test and Hausman Test to determine the best model between the Common Effect Model (CEM), Fixed Effect Model (FEM) and/or Random Effect Model (REM) for data. The test was conducted with Eviews 12 software.

RESULT AND DISCUSSION

Panel Data Regression Model Analysis

Based on the results of the Chow test and Hausman test, the best model used in this study is the Fix Effect Model. The Fixed Effect Model regression results can be seen in table 1.

Table 1. Fixed Effect Model Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	192807.6	3829.211	50.35178	0.0000
PMA	-1.008103	6.498430	-0.155130	0.8771
PMDN	3.477046	0.381584	9.112128	0.0000
	Effects Specification			
Cross-section fixed (dummy variables)				
Root MSE	18108.89	R-squared		0.985985
Mean dependent var	215690.1	Adjusted R-squared		0.984233
S.D. dependent var	153737.6	S.E. of regression		19304.14
Akaike info criterion	22.68619	Sum squared resid		3.28E+10
Schwarz criterion	22.99881	Log likelihood		-1122.310
Hannan-Quinn criter.	22.81272	F-statistic		562.8236
Durbin-Watson stat	0.709103	Prob(F-statistic)		0.000000

Source: Output Eviews 12 processed (2024)

Furthermore, the Classical Assumption Test is carried out to fulfill the rules of the best, linear, unbiased estimator (BLUE) results.

Classical Assumption Test

There are several classic assumption tests that need to be carried out in panel data regression analysis, namely multicollinearity test and heteroscedasticity test. The following is an analysis of the classic assumption test in this study:

Multicollinearity Test

In Widarjono (2018), the VIF (Variance Inflation Factor) method can be used to detect multicollinearity problems. The larger the VIF value, the more multicollinearity problems are suspected in a regression model. The results of multicollinearity test processing can be seen in Table 2 below.

Table 2. Multicollinearity Test Results

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	1.37E+08	2.168284	NA
PMA	282.4040	2.644862	1.409029
PMDN	1.530188	2.705417	1.409029

Source: Output Eviews 12 processed (2024)

Based on the estimation results of the multicollinearity test with the VIF (Variance Inflation Factor) method in Table 2, it shows that the centered VIF value on each independent variable has a number below 10, thus it can be concluded that the model does not contain multicollinearity elements.

Heteroscedasticity Test

Heteroscedasticity testing in this study was carried out with the Glejser test. The results can be seen in table 3.

Table 3. Heteroscedasticity Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	13381.08	1980.138	6.757650	0.0000
PMA	-3.886088	3.360428	-1.156426	0.2506
PMDN	0.293826	0.197323	1.489063	0.1400
	Effects Specification			
Cross-section fixed (dummy variables)				
Root MSE	9364.356	R-squared		0.406219
Mean dependent var	13425.69	Adjusted R-squared		0.331996
S.D. dependent var	12213.70	S.E. of regression		9982.437
Akaike info criterion	21.36721	Sum squared resid		8.77E+09
Schwarz criterion	21.67983	Log likelihood		-1056.360
Hannan-Quinn criter.	21.49373	F-statistic		5.472983
Durbin-Watson stat	1.634984	Prob(F-statistic)		0.000001

Source: Output Eviews 12 processed (2024)

Based on the estimation result of heteroscedasticity test using Glejser test in Table 3, the probability value of foreign investment variable and domestic investment variable are smaller than α = 5% (0.05). This result indicates that the variable is not identified heteroscedasticity problem.

Coefficient of Determination (R^2)

Based on the results of testing with the Fixed Effect Model (FEM) approach, the R2 result obtained is 0.9859. This shows that the independent variables (foreign investment and domestic investment variables) contained in the model explain the labor force participation rate variable by 98.59% and the remaining 1.41% is explained by other variables outside the research model.

F-Test

Based on the regression results with the Fixed Effect Model (FEM) approach, the Prob (F-statistic) value is 0.0000. Prob(F-statistic) value (0.0000) > α (0.05). This explains that the independent variables (foreign investment and domestic investment variables) jointly affect the dependent variable (GRDP) of Sumatra Island and Kalimantan Island.

t-Test

The estimation result of t test with fixed effect model (FEM) approach on foreign investment variable (FDI) obtained probability value of 0.8771, which shows greater than 0.05. This means that partially the foreign investment variable (FDI) has no effect on the GRDP variable of Sumatra Island and Kalimantan Island.

The estimation result of t test with fixed effect model (FEM) approach on domestic investment variable (PMDN) obtained a probability value of 0.0000, which indicates smaller than 0.05. This means that partially the domestic investment variable (PMDN) affects the GRDP variable of Sumatra Island and Kalimantan Island.

The Effect of Foreign Direct Investment (FDI) on GRDP of Sumatera Island and Kalimantan Island

The coefficient of the foreign investment variable (FDI) is negative, which does not have any meaning because it has no effect.

The Effect of Domestic Direct Investment (DDI) on the GRDP of Sumatra Island and Kalimantan Island

The coefficient of the domestic investment variable (PMDN) is positive, meaning that the domestic investment variable (PMDN) has a positive and significant influence on the GRDP of Sumatra Island and Kalimantan Island.

CONCLUSION

Based on the results and discussion section, it can be concluded that domestic direct investment (DDI) has a positive and significant effect on GRDP in Sumatra and Kalimantan Islands, but foreign direct investment (FDI) has no effect on GRDP in Sumatra and Kalimantan Islands during 2013-2022.

REFERENCES

Arsyad, L. (2010). Ekonomi Pembangunan. UPP STIM YKPN

Chammearc, H B., & Astuty, P. (2023, June 9). The Effect Of Investment, Work Force, And Education Level On The Real Growth Of GRDP In The Bangka Belitung Islands. https://doi.org/10.59141/jrssem.v2i11.472

Widarjono, A. (2018). *Ekonometrika Pengantar dan Aplikasinya Disertai Panduan Eviews* (5 ed.). Yogyakarta: UPP STIM YKPN.

Winda, B S., & Falianty, T A. (2023, May 17). Pengaruh Foreign Direct Investment Terhadap Emisi Gas CO2 di Negara G20. https://doi.org/10.35931/aq.v17i3.2163

Wang, L. (2022, March 28). COVID-19 PANDEMIC: ITS EFFECT ON RETAIL BUSINESS GROWTH IN INDONESIA. https://doi.org/10.29040/ijebar.v6i1.4550

Sukirno, Sadono. 2004. Makroekonomi Teori Pengantar. Jakarta:PT. Raja Grafindo Persada.

Suparmoko. 2002. Ekonomika Pembangunan Edisi Keenam. Yogyakarta: Andi

Undand-undang Republik Indonesia Nomor 25 Tahun 2007 tentang Penanaman Modal. 2007. Bandung: Fokusmendia.

Vijaya,Moeljadi, Dan Rahayu.(2021). The Effect Of Product Innovation And Service Quality On Competitive Advantage Mediated By Company Image (Study At Pt. Toyota Astra Motor In Malang Raya). *International Journal of Business, Economics and Law*, 24(4), 148-154.

Wijaya, Aini, Dan Paramastri.(2019), Pentingnya Pengelolaan Inovasi Dalam Era Persaingan, *Jurnal Manajemen Dan Bisnis Indonesia,* 5(2), 217 – 227.

Yuliana, Wijayanto, Dan Santoso.(2020). Pengaruh Efisiensi, Persepsi Resiko Dan Tingkat Kemudahan Terhadap Keputusan Pembelian (Konsumen Toko Online Shopee Di Ponorogo), Jurnal Manajemen Dan Bisnis Fakultas Ekonomi Universitas Muhammadiyah Ponorogo, 33-41.

Zainurossalamia, Syarifah, And Rusmilawati.(2016).The Effect of Innovation on Firm Performance and Competitive Advantage, *European Journal of Business and Management,* 113-120.