



**THE IMPACT OF IMPORTS, EXPORTS, DOMESTIC INVESTMENT
(PMDN), REGIONAL INVESTMENT (PMDA), THE HUMAN
DEVELOPMENT INDEX (HDI), AND LABOR PRODUCTIVITY ON
ECONOMIC GROWTH IN INDONESIA (2019–2023)**

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Abstract

Economic growth is one of the key indicators for measuring a country's development success. This study aims to examine the impact of imports, exports, Domestic Direct Investment (DDI), Foreign Direct Investment (FDI), the Human Development Index (HDI), and labor productivity on economic growth in Indonesia during the 2019–2023 period. The urgency of this research lies in providing a deeper understanding of the factors influencing economic growth to support the formulation of more precise and effective policies. This study employs a quantitative approach using panel data analysis from 34 provinces in Indonesia. The secondary data collected is processed using Eviews 10 software to identify significant relationships between variables. The findings indicate that exports, imports, HDI, and FDI have a significant influence on economic growth. In contrast, DDI and labor productivity do not show a significant impact on Indonesia's economic growth. The results of this study are expected to serve as a reference for policymakers and academics in designing more sustainable economic development strategies based on factors that have been empirically proven to contribute to national economic growth.

Keywords: Economic Growth, Exports, Imports, Human Development Index (HDI)



INTRODUCTION

Economic growth is a process characterized by the interconnection and mutual influence of the factors driving it (Dauda et al., 2024). Various factors influence economic growth; one such factor is a country's economic relationships with other nations (Egita et al., 2024). Governments can foster economic growth through activities such as investment, exports, and imports. Indonesia is known for its abundant natural and human resources and plays an active role in international trade. Indonesia's economic growth between 2019 and 2023 experienced fluctuating trends—with periods of both increase and decrease—as illustrated in the following graph based on data from Statistics Indonesia (BPS).



Figure 1.
Economic Growth in Indonesia, 2019–2023.

One of the factors influencing a country's economic growth is investment—spanning sectors such as industry, infrastructure, and services—comprising both Domestic Direct Investment (PMDN) and Foreign Direct Investment (PMA). Domestic investment has risen due to government policies that support the business sector, while foreign investment brings benefits such as new technology, job creation, and export opportunities. After a period of weakness caused by the pandemic, Indonesia is gradually recovering and strengthening its economic foundations through increased investment and international cooperation. Notably, in 2018, realized investment in Indonesia was dominated by PMA, which accounted for 56 percent of the total, while



PMDN contributed 46 percent. Data from the Investment Coordinating Board (BKPM) indicates an upward trend in FDI inflows to Indonesia over the past five years (2019–2023), as illustrated in the following graph.

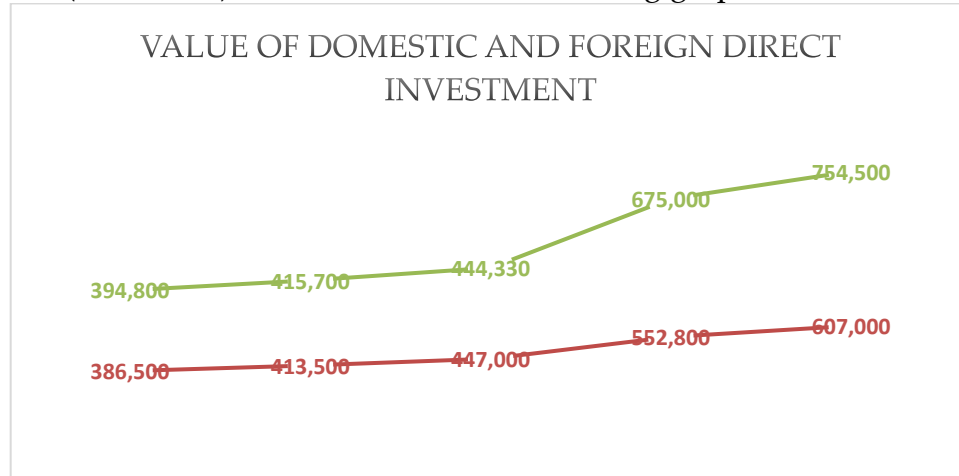


Figure 2.
Chart of Domestic and Foreign Direct Investment Values in Indonesia, 2019–2023.

Cooperation can serve as a starting point for economic growth, ultimately accelerating economic development. Over the past few decades, there has been a significant rise in international trade, driven by the attraction of both domestic and foreign investment. This increase in investment strengthens capital accumulation within the economy, subsequently boosting the production of goods and services through the optimization of production processes. Furthermore, increased investment influences the value of domestic imports and exports, thereby impacting Indonesia's Human Development Index (HDI) and labor productivity.

Based on the background outlined above, Indonesia's economic growth is influenced by various factors, including exports, imports, the Human Development Index, foreign direct investment, domestic investment, and labor productivity. Understanding the role of each of these variables is crucial for formulating effective and sustainable economic policies. The significance of this research lies in identifying the substantial contribution of each variable to economic growth, thereby serving as a reference for formulating more targeted development policies.



LITERATURE REVIEW

Economic Growth

A nation's economic growth can rise or fall over a specific period (Rahmad & Utomo, 2005). Positive growth reflects an expansion of economic activity—such as increased production, investment, and public purchasing power—whereas negative growth indicates an economic contraction, which may stem from declines in consumption or investment, or from disruptions to production (Rawung et al., 2022). Economic growth is heavily influenced by factors of production and the quality of human resources, both of which play a role in enhancing a nation's efficiency, productivity, and economic competitiveness in the long term (Irfan et al., 2023).

Exports

Exports involve the distribution of commodities from one country to another across territorial borders, playing a role in maintaining the equilibrium between the circulation of goods and domestic monetary liquidity (Sasono, 2013). As a vital source of foreign exchange, countries with open economies—such as Indonesia—need to maximize exports to boost foreign currency earnings. Foreign exchange inflows generated from export profits serve as a catalyst for economic growth in the exporting country (Todaro & Stephen, 2006). Expanding exports to various countries can increase production volumes, which in turn drives up foreign exchange earnings (Syakir & Yanti, 2024). Export activities are expected to contribute significantly to economic growth and stability. Research by Hodijah & Angelina (2021) and Nur et al. (2023) indicates that exports have a significant positive effect on economic growth. In contrast, a study by Farida & Yuliana (2022) found that the export variable did not have a significant impact on economic growth.

Imports

The import process involves bringing goods or commodities from abroad into a country as part of international trade (Nur et al., 2023). Although high import levels do not necessarily have a negative impact on a country, such activity can stimulate investment growth—particularly when the imported goods consist of capital equipment, raw materials, or semi-finished goods that support the industrial sector (Maysarah & Ibrahim, 2024). However, research by Pane (2023) indicates that the import variable does not have a positive effect on economic growth in Indonesia.

Domestic Investment

The primary role of domestic investment (PMDN) lies in its contribution to national income, as it enables the optimization of the nation's resources



(Meilaniwati & Tannia, 2021). Under Law No. 15 of 2007, domestic investment is defined as "the activity of investing capital to conduct business within the territory of the Republic of Indonesia, undertaken by domestic investors using domestic capital." A study by Nehemia & Prasetya (2023) reveals that domestic investment contributes positively and significantly to economic growth.

Foreign Direct Investment

Foreign Direct Investment (FDI) is an activity in which foreign investors invest capital to conduct business operations (Setyowati et al., 2008). Portfolio investment, as a component of international capital flows, occurs when one country acts as an investor by allocating funds to another country that serves as the borrower (Alsavira, 2021). A study by Ningsih et al. (2020) found that FDI has a negative impact on economic growth. This contrasts with the findings of Irfan et al. (2023), whose research indicated that FDI has a positive effect on economic growth, as foreign investment contributes positively to development.

Human Development Index (HDI)

The HDI encompasses aspects of health, education, and income—providing an overview of the population's quality of life—which directly influence labor productivity. In an economic context, improvements in the HDI lay the foundation for innovation, competitiveness, and the ability to adapt to global changes. The significance of this research lies in identifying the close relationship between investment in human development and the acceleration of economic growth. A study by Sari and Suryani (2016) found that the HDI had a negative impact on economic growth in the East Java region, indicating an economic decline despite improvements in HDI levels. Conversely, Arifin (2021) demonstrated a significant positive impact, showing that increases in the HDI drove regional economic growth.

Labor Productivity

Labor productivity plays a crucial role in enhancing economic efficiency and driving economic growth by increasing output per worker. Consequently, a nation can achieve sustainable economic growth by maximizing the quality and skills of its workforce. Empirical evidence demonstrates that labor productivity plays a significant role in fostering economic growth; Desnasari (2021) found that increases in labor productivity have a positive impact on economic growth, based on panel data from 34 provinces in Indonesia.

**RESEARCH METHOD**

This study employs a quantitative research method utilizing panel data regression analysis. The scope of the study encompasses Indonesia's 34 provinces as the cross-sectional component and the 2019–2023 period as the time-series component. Data were obtained from Statistics Indonesia (BPS), the Ministry of Investment/Investment Coordinating Board (BKPM), and the Financial Services Authority (OJK). The collected data were processed using EViews 10 software. Additionally, statistical tests—specifically the t-test and F-test—were conducted to assess the significance of the variables' effects.

RESULTS AND DISCUSSION

The regression analysis was conducted using EViews 10 and involved several tests—specifically the Chow test and the Hausman test—within a panel data regression framework; the process began with model selection to determine the appropriate analysis based on the chosen model.

Table 1.
Panel Data Regression Results

Variable	Regression Coefficient		
	CEM	FEM	REM
C	379.0375	-305737.8	-233232.1
EKSPOR	6.279940	0.594508	1.013701
IMPOR	3.760009	1.188573	1.600973
IPM	425.0119	4957.845	3737.568
PMA	-4.633581	2.938285	2.496315
PMDN	-0.044228	0.155513	0.129800
PTK	-323.6283	-130.5677	-11.53832
R^2	0.843447	0.994619	0.585286
Adjusted R^2	0.837684	0.993005	0.570021
F-statistic	146.3632	616.1683	38.34039
F-statistic Probability	0.000000	0.000000	0.000000



Table 2.
Panel data estimation results using the Chow test

Effects test	Statistic	d,f,	Prob,
Cross-section F	110.679271	(33,130)	0.0000
Cross-section Chi-square	572.999241	33	0.0000

Based on Table 2, the results of the best model test using the Chow approach (via the Redundancy Test) yielded a chi-square probability value of 0.0000. Since this value is lower than the alpha level (0.01), the null hypothesis (H0) is rejected; consequently, it is concluded that the Fixed Effect Model is more appropriate for hypothesis testing in this study than the Common Effect Model (CEM).

The results of the Chow test indicate that the Fixed Effect Model is superior to the Common Effect Model; therefore, the process of selecting the best model proceeded to the Hausman test to determine whether the Random Effect Model is superior to the Fixed Effect Model.

Table 3.
Hausman test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob,
Cross-section random	110.679271	(33,130)	0.0000

Based on the Hausman test results in Table 3, the probability value (Prob.) for the cross-section random effect is 0.0000, which is less than the alpha level of 0.01; therefore, the null hypothesis (H0) is rejected. Thus, based on the Hausman test, the best panel data approach for explaining the model developed in this study is the Fixed Effect Model.

Table 4.
Fixed Effect Model (FEM) estimation results

$\widehat{PDRB}_{it} = -305737.8 + 0.594508 EKSPOR_{it} + 1.188573 IMPOR_{it} +$		
(0.0272)**	(0.0000)*	
$+ 4957.845 IPM_{it} + 2.938285 PMA_{it} + 0.155513 PMDN_{it}$		
(0.0000)*	(0.0015)*	(0.1122)
$-130.5677 PTK_{it}$		
(0.3014)		
$R^2 = 0.994619; DW = 1.020882; F = 616.1683; Prob. F = 0.000000$		



Source: Appendix 1. Note: *Significant at $\alpha = 0.01$; **Significant at $\alpha = 0.05$; ***Significant at $\alpha = 0.10$; Figures in parentheses represent the probability of the t-statistic.

The F-test is used to assess the validity of the model or to determine whether the independent variables collectively (simultaneously) influence the Economic Growth (GRDP) variable across the regions of Indonesia. If the F-statistic probability is less than the alpha value, it can be concluded that the independent variables simultaneously affect the dependent variable. Based on the Fixed Effect Model estimation results, the F-statistic (calculated F-value) is 616.1683, with an F-statistic probability of 0.000000. Thus, it can be concluded that Exports, Imports, the Human Development Index (HDI), Foreign Direct Investment (FDI), Domestic Direct Investment (DDI), and Labor Productivity (PTK) simultaneously influence economic growth in Indonesia.

The coefficient of determination (R^2) indicates the predictive power of the estimated model. The Fixed Effect Model regression results show an R^2 value of 0.994619, meaning that 99.47% of the variation in Economic Growth can be explained by the variation in Exports, Imports, the Human Development Index (HDI), Foreign Direct Investment (FDI), Domestic Direct Investment (DDI), and Labor Productivity (PTK). The remaining 0.33% is explained by variations in other variables or factors not included in the model.

Table 5.

Validity Test Results for the Influence of Independent Variables

Variable	t	Sig.t	Criteria	CONCLUSION
EKSPOR	2.233959	0.0272	< 0,05	Significant at $\alpha = 0,05$
IMPOR	4.856112	0.0000	< 0,01	Significant at $\alpha = 0,01$
IPM	5.032949	0.0000	< 0,01	Significant at $\alpha = 0,01$
PMA	3.241771	0.0015	< 0,01	Significant at $\alpha = 0,01$
PMDN	1.599025	0.1122	> 0,10	Not Significant
PTK	-1.037499	0.3014	> 0,10	Not Significant

Based on the validity test of effects shown in the table above, the variables proven to have a significant impact on economic growth are Exports, Imports, the Human Development Index (HDI), and Foreign Direct Investment (FDI). The export variable exhibits a regression coefficient of 0.594508 with a linear-linear relationship pattern; this means that every IDR 1 billion increase in exports drives economic growth up by 0.594508 million. Conversely, if exports decrease by IDR 1 billion, economic growth will also decline by 0.594508 million. This aligns with research conducted by Kuncorowati (2022), which



indicates that the Human Development Index has a positive effect on economic growth, whereas education levels and population size have a negative effect.

The import variable has a regression coefficient of 1.188573, exhibiting a linear-linear relationship. This indicates that an increase in imports of Rp1 billion would raise economic growth by 1.188573 million. Conversely, if imports were to decrease by Rp1 billion, economic growth would also decline by 1.188573 million.

The Human Development Index (HDI) variable has a regression coefficient of 4957.845, also exhibiting a linear-linear relationship. This indicates that every 1% increase in the HDI would drive economic growth up by 4957.845 million. Conversely, if the HDI were to decrease by 1%, economic growth would decline by the same amount—4957.845 million.

The Foreign Direct Investment (FDI) variable has a regression coefficient of 2.938285, exhibiting a linear-linear relationship. This means that if Foreign Direct Investment increases by 1 million dollars, economic growth will rise by 2.938285 million. Conversely, if Foreign Direct Investment decreases by 1 million dollars, economic growth will fall by 2.938285 million. Meanwhile, no significant influence on economic growth in the Indonesian region was found for the Domestic Direct Investment (DDI) and Labor Productivity variables.

CONCLUSION

The research findings conclude that exports, imports, the Human Development Index (HDI), and Foreign Direct Investment (FDI) are variables that significantly influence economic growth in Indonesia. This indicates that international trade, human resource quality, and foreign investment were key drivers of economic performance between 2019 and 2023. Exports serve as a source of foreign exchange, while imports support the industrial sector by providing raw materials and technology. The HDI—encompassing health, education, and standards of living—also plays a crucial role in enhancing workforce productivity and competitiveness, thereby laying the foundation for long-term economic growth. Foreign Direct Investment (FDI) generates positive impacts through capital injections, technology transfers, and job creation.

In contrast, Domestic Direct Investment (PMDN) and labor productivity did not show a significant influence on economic growth. This suggests that domestic investment has not yet reached its full potential, and that labor productivity requires further improvement through better education quality and effective training. The study highlights the importance of strengthening



domestic investment, enhancing human resource quality, and effectively managing international trade to stimulate inclusive economic growth.

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