International Journal of Humanity Advance, Business & Sciences (IJHABS)
https://malaqbipublisher.com/index.php/IJHABS
Online ISSN 2988-5450

Determinants of Foreign Direct Investment (FDI) in Java Island: Strategic Implications for Regional Development

Original Article

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Received: 25 July 2025
Accepted: 30 July 2025
Published online: 30 July 2025

Abstract

This study aims to analyze the influence of infrastructure, labor costs, market size, and governance on Foreign Direct Investment (FDI) in Indonesia during the 2016–2017 period. Using a quantitative approach and annual secondary data, multiple linear regression analysis was conducted through SPSS 26. The findings indicate that while infrastructure and governance demonstrated relatively stable conditions, labor costs significantly fluctuated and appeared to have a potential inverse relationship with FDI inflows. However, the statistical significance during this period was limited due to the small data sample, suggesting the need for further longitudinal data to draw firmer conclusions. The analysis provides an early insight into how these structural factors might shape FDI performance in the post-global financial recovery phase.

Keywords: Foreign Direct Investment, Infrastructure, Labor Cost, Market Size, Governance

1. Introduction

Foreign Direct Investment (FDI) has become a central pillar in the economic development strategy of many developing countries, including Indonesia. As a form of international capital flow, FDI not only contributes to the accumulation of capital but also facilitates technology transfer, managerial skills, and access to international markets. FDI can stimulate sectoral growth, especially in manufacturing and services, and is regarded as a major source of job creation and productivity enhancement (Sahoo & Sethi, 2021). In this context, Indonesia has positioned FDI as a strategic driver to accelerate its transition toward a more industrialized and competitive economy.

Among all regions in Indonesia, Java Island has consistently been the largest recipient of FDI inflows. According to the Indonesia Investment Coordinating Board, more than 60% of total FDI entering Indonesia is concentrated in Java. This disproportionate share reflects Java's superior investment climate, marked by robust infrastructure, a large consumer base, skilled labor availability, and institutional readiness. Consequently, the island acts as a central hub for domestic and foreign businesses operating across various sectors.

The concept of FDI determinants refers to the underlying factors that influence the location decisions of multinational corporations. These factors include macroeconomic stability, labor costs, infrastructure quality, regulatory efficiency, political stability, and market potential. Each determinant plays a role in shaping investor perceptions of opportunity and risk in a particular location. A study by Putra dan Yuliana (2018) identified infrastructure development as a significant driver behind Java's attractiveness to foreign investors.

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Java benefits from a comprehensive and integrated logistics network, including international ports such as Tanjung Priok, major airports like Soekarno-Hatta and Juanda, and the Trans-Java toll road system. These facilities reduce transaction costs, increase the efficiency of supply chains, and strengthen Java's position as a major export and industrial corridor (Yulistiani & Prasetyo, 2020). As a result, the island has emerged as the preferred destination for manufacturing, consumer goods, and automotive sectors.

In addition, Java offers a massive domestic market with over 56% of Indonesia's population residing on the island. This high population density creates both labor supply and consumer demand advantages, making it an attractive base for production and distribution. Economies of scale, market size, and urban agglomeration effects further amplify the island's investment appeal.

Regulatory reform has also enhanced Java's investment competitiveness. The Indonesian government has implemented numerous pro-investment policies, most notably through the Omnibus Law on Job Creation, which simplifies licensing, streamlines procedures, and provides fiscal incentives to attract FDI. Nugroho dan Arifianto (2021) Highlight that such reforms have positively reshaped investor sentiment and reduced entry barriers for foreign capital. Political and social stability are equally crucial in attracting long-term investment. Compared to other regions that face challenges such as land conflicts or underdevelopment, Java maintains relatively high levels of institutional reliability and administrative effectiveness. This stability ensures predictable business conditions, which are essential for multinational enterprises making long-term financial commitments (Riyanto et al., 2019).

On the macroeconomic front, factors such as exchange rate stability, inflation control, and interest rate levels directly affect the risk perception of foreign investors. According to Gunawan dan Wijayanti (2022) Indonesia's stable macroeconomic indicators in recent years have played a significant role in sustaining investor confidence, particularly in its economic core, Java Island. Local governments in Java have proactively improved their investment climate by offering investor-friendly services and developing integrated industrial zones. Provinces like West Java and East Java have established special economic zones and provided one-stop services to expedite business establishment (Lestari & Mulyadi, 2020). This inter-provincial competition encourages innovation, public service efficiency, and infrastructure readiness.

Fiscal incentives such as tax holidays and tax allowances are also instrumental in attracting high-value foreign investments. These incentives are particularly effective in Java, where investor infrastructure needs are already largely met. Kurniawan and Iswanto (2023) note that the synergy between fiscal policy and infrastructure availability enhances the region's long-term investment potential.

Social and human capital indicators also matter. Java benefits from a concentration of universities, vocational training centers, and a tech-savvy workforce. Higher levels of education, digital literacy, and cultural openness make the region more adaptive to global business standards and technological requirements (Siregar & Indrawan, 2017). Despite these advantages, Java faces challenges due to over-concentration. Environmental degradation, traffic congestion, and rising land prices are structural issues that threaten sustainability. Dewi and Firmansyah (2021) emphasize the need for balanced development to avoid bottlenecks and maintain investment attractiveness without compromising long-term sustainability.

Effective coordination between central and local governments is essential for maximizing the impact of FDI. Maulana and Setiawan (2022) argue for integrated policy frameworks that align national priorities with regional capabilities to promote equitable and inclusive growth. Java, while a leader in FDI absorption, must continue to refine its strategy in response to global investment dynamics. Most previous studies have focused on the national-level relationship between FDI and economic growth. However, fewer studies examine the regional

determinants of FDI within Indonesia. This study aims to fill that gap by exploring the specific factors that drive foreign investors to choose Java Island over other regions. In conclusion, understanding the determinants of FDI in Java requires a multi-dimensional approach that considers economic, institutional, social, and spatial aspects. This research seeks to empirically examine the key drivers influencing FDI flows to Java Island, providing a basis for more targeted and sustainable investment policies that support regional economic transformation and national development goals.

2. Literature Review

2.1. Theoretical Framework of FDI Determinants

Foreign Direct Investment (FDI) has long been analyzed through multiple theoretical lenses. One of the most influential is Dunning's Eclectic Paradigm (OLI Framework), which posits that firms engage in FDI when they possess Ownership advantages, seek Location advantages, and prefer Internalization over licensing (Dunning, 1980). Location-specific factors such as infrastructure, market size, labor costs, and political stability are particularly relevant in regional FDI studies. The OLI paradigm remains widely used as a foundation for examining FDI flows into specific areas such as Java Island. More recent models incorporate institutional quality and global value chain integration as central determinants. For example, Alfaro (2017) emphasizes that macroeconomic stability, governance effectiveness, and regulatory clarity enhance investor confidence. These theories are increasingly contextualized at subnational levels to capture the heterogeneity of regions within developing countries.

2.2. Empirical Studies on FDI in Developing

A growing body of empirical literature investigates the determinants of FDI across developing economies. Sahoo and Sethi (2021) find that market size, infrastructure, trade openness, and labor quality are positively correlated with FDI inflows in South and Southeast Asia. Their panel data study further shows that investor decisions are sensitive to exchange rate volatility and political risks. In the African context, Owusu and Odhiambo demonstrate that FDI inflows are significantly shaped by electricity availability, transport efficiency, and institutional transparency. These findings reinforce the importance of physical and governance-related determinants for attracting foreign investors. For Latin America, López & Ramos (2020) analyze 15 countries and conclude that tax incentives alone are insufficient to attract sustained FDI. Rather, long-term investment requires a holistic environment that combines fiscal, logistical, and workforce readiness.

2.3. FDI in Indonesia: National and Regional Perspectives

Indonesia has attracted significant interest from FDI researchers. According to Putra and Yuliana (2018), infrastructure development, particularly in Java, plays a pivotal role in influencing foreign investment flows. Their findings show that access to roads, ports, and digital connectivity significantly enhances regional competitiveness. Yulistiani and Prasetyo (2020) use provincial panel data to examine the impact of labor costs and population size on FDI in Indonesia. They conclude that Java provinces outperform others due to their industrial infrastructure, higher productivity, and proximity to urban markets. Additionally, they highlight the importance of local government responsiveness and institutional efficiency. Kurniawan and Iswanto (2023) focus on fiscal incentives and find that tax holidays in Java have been more successful when coupled with infrastructure readiness and regulatory predictability. Their study shows that many investors prioritize Java due to its relatively lower transaction costs and better investment services.

2.4. Subnational Determinants and Regional Competition

Studies by Lestari and Mulyadi emphasize the growing inter-provincial competition in Java, particularly between West Java, Central Java, and East Java. Each province offers unique investment packages, including land availability, special economic zones, and streamlined licensing procedures. This competition fosters innovation in public services and creates variation in FDI outcomes within Java itself. In another regional study, (Riyanto et al., 2019) underline the role of political stability and security in sustaining investor confidence. They argue that Java's relative absence of socio-political conflicts compared to other islands (e.g., Papua or Kalimantan) contributes to its dominance as an FDI destination. Moreover, effective bureaucratic governance at the provincial level ensures better implementation of national policies, which is critical for investor retention.

2.5. Macro-Financial and Human Capital Factors

Gunawan and Wijayanti (2022) explore the macro-financial environment and its effect on investor perception. Their results indicate that interest rates and inflation volatility influence the timing and magnitude of FDI inflows. Java's stable financial ecosystem, supported by its integration into global value chains, provides a conducive environment for long-term investmentSiregar and Indrawan (2017) highlight the role of human capital and socio-cultural factors. Their qualitative study shows that Java's workforce is perceived to be more adaptive, literate, and aligned with global work culture compared to other regions. These non-financial factors, though often underestimated, play a key role in reducing operational risk for foreign firms.

2.6. Gaps in the Literature and Contribution of This Study

While the literature offers robust insights into national-level FDI determinants in Indonesia, relatively few studies delve deeply into the regional or subnational dynamics of FDI, especially with a focus on Java Island as a distinctive economic region. Existing studies often treat Indonesia as a homogenous unit, ignoring the vast disparities in infrastructure, governance, and economic capacity between provinces. This study contributes to the existing literature by providing a focused analysis of FDI determinants specific to Java Island, considering both cross-provincial competition and structural factors that differentiate Java from other regions. In doing so, it seeks to inform policymakers on how to tailor investment strategies at a regional scale, ensuring both economic growth and sustainable development.

3. Methods

This study employs a quantitative research approach to examine the determinants of Foreign Direct Investment (FDI) in Java Island. The research is explanatory, aiming to identify and measure the influence of selected independent variables such as infrastructure quality, labor costs, market size, and governance indicators on FDI inflows at the provincial level. The data used in this study are secondary data obtained from official sources such as the Indonesian Central Statistics Agency (BPS), the Investment Coordinating Board (BKPM), and the World Bank, covering the years 2016 to 2017. The unit of analysis consists of six provinces on Java Island.

Data Analysis Technique

This study uses multiple linear regression analysis to examine the influence of several independent variables on Foreign Direct Investment (FDI) inflows in Java Island. The analysis is conducted using SPSS version 26.

Before regression analysis, classical assumption tests are performed to ensure model validity, including:

- **Normality test** (using Kolmogorov–Smirnov or P-P plot),
- **Multicollinearity test** (using VIF and Tolerance),
- **Heteroscedasticity test** (using Glejser or scatterplot),
- **Autocorrelation test** (using Durbin-Watson, if time-series data is used).

Once assumptions are met, hypothesis testing is conducted through:

- **t-test** (to examine the partial effect of each independent variable),
- **F-test** (to examine the simultaneous effect of all variables),
- **R^2 (coefficient of determination)** to assess the explanatory power of the model.

The significance level used is **5% (α = 0.05)**. A p-value less than 0.05 indicates a statistically significant relationship between the independent variable and FDI.

4.Results and Discussion

4.1. Descriptive Statistics

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Tahun	12	2016	2017	2016,50	,522
FDI (USD M)	12	1,30	980,00	199,6042	351,27410
Infrastructure	12	65	88	76,08	6,388
Labor Cost (IDR jt)	12	1,5	4,6	2,942	1,0184
Market Size (jt org)	12	3,7	45,8	24,542	16,6369
Governance	12	68	84	74,92	4,582
Valid N (listwise)	12				

Source: SPSS 26 data processing

The descriptive statistics show that the dataset includes 12 observations from the years 2016 and 2017. FDI values vary widely, with a high standard deviation, indicating significant fluctuation across regions or time. Infrastructure, labor cost, and governance display relatively stable values, while market size also shows high variability. Overall, FDI and market size are the most dispersed variables, whereas governance and infrastructure are more consistent.

4.2. Classical Assumption Tests

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
FDI (USD M)	,379	12	,000	,634	12	,000
Infrastructure	,094	12	,200*	,986	12	,997
Labor Cost (IDR jt)	,119	12	,200*	,962	12	,807
Market Size (jt org)	,252	12	,034	,843	12	,031
Governance	,103	12	,200*	,973	12	,937

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

4.3. Multiple Linear Regression

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	-1588,206	1987,521		-,799	,450		
	Infrastructure	38,333	36,626	,697	1,047	,330	,140	7,132
	Labor Cost (IDR jt)	-445,502	188,522	-1,292	-2,363	,050	,208	4,803
	Market Size (jt org)	4,089	6,466	,194	,632	,547	,663	1,508
	Governance	1,088	30,636	,014	,036	,973	,390	2,567

a. Dependent Variable: FDI (USD M)
Source: SPSS 26 data processing

4.4. Coefficient of Determination (R^2), F-Test, and t-Test

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	,751[a]	,565	,316	290,57259	,565	2,269	4	7	,162	1,763

a. Predictors: (Constant), Governance, Market Size (jt org), Labor Cost (IDR jt), Infrastructure

b. Dependent Variable: FDI (USD M)
Source: SPSS 26 data processing

The regression model shows that 56.5% of the variance in FDI is explained by Infrastructure, Labor Cost, Market Size, and Governance. However, the adjusted R^2 drops to 31.6%, indicating limited explanatory power after adjusting for predictors. The model is not statistically significant (Sig. = 0.162 > 0.05), suggesting that the predictors do not jointly affect FDI significantly. The Durbin-Watson value of 1.763 indicates no autocorrelation. Overall, the model's predictive ability is moderate and may require refinement or additional data.

4.5. F-Test

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	766301,398	4	191575,349	2,269	,162[b]
	Residual	591027,016	7	84432,431		
	Total	1357328,414	11			

a. Dependent Variable: FDI (USD M)

b. Predictors: (Constant), Governance, Market Size (jt org), Labor Cost (IDR jt), Infrastructure
Source: SPSS 26 data processing

The ANOVA table shows that the F-value is 2.269 with a significance level (Sig.) of 0.162. Since this p-value is greater than the conventional threshold of 0.05, it indicates that the regression model is not statistically significant at the 5% level. In other words, there is no strong evidence that the independent variables, Infrastructure, Labor Cost, Market Size, and Governance, collectively have a significant effect on Foreign Direct Investment (FDI). Therefore, the overall model does not provide a good fit for predicting FDI based on these predictors.

4.6. t-Test

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-1588,206	1987,521		-,799	,450
	Infrastructure	38,333	36,626	,697	1,047	,330
	Labor Cost (IDR jt)	-445,502	188,522	-1,292	-2,363	,050
	Market Size (jt org)	4,089	6,466	,194	,632	,547
	Governance	1,088	30,636	,014	,036	,973

a. Dependent Variable: FDI (USD M)

The results of the t-test indicate that among the four independent variables—Infrastructure, Labor Cost, Market Size, and Governance only Labor Cost has a statistically significant effect on Foreign Direct Investment (FDI), with a p-value of 0.050. This suggests that labor cost negatively influences FDI, meaning higher labor costs may deter foreign investors. Infrastructure and Market Size both show positive coefficients, implying a potential positive relationship with FDI; however, their p-values (0.330 and 0.547, respectively) are well above the 0.05 significance threshold, indicating that these effects are not statistically significant. Governance also has a very high p-value of 0.973, suggesting it has no meaningful impact on FDI in this model. Overall, the analysis reveals that Labor Cost is the only variable with a borderline significant influence on FDI, while the other factors do not contribute significantly to the explanation of FDI variation in the observed period.

4.7. Discussion

The regression analysis for the 2016–2017 period provides a preliminary understanding of how key macroeconomic variables influence Foreign Direct Investment (FDI) inflows in Indonesia. Although the limited two-year data constrain statistical reliability, the directional relationships among the variables offer useful economic insights. The negative coefficient for **labor cost** implies that rising labor expenses may discourage FDI. This finding is consistent with the cost-minimization motive behind foreign investment decisions, where investors seek locations offering affordable production costs (Narula & Dunning, 2010). Higher wage levels may lead multinational firms to shift their investments to more cost-efficient economies in the region.

Infrastructure exhibits a positive relationship with FDI, reinforcing the well-established view that quality infrastructure as transportation, energy, and digital networks, facilitates production and market access, thus enhancing investment attractiveness (Asiedu, 2006). However, the statistical insignificance of this variable suggests that the effect of infrastructure development may require a longer time horizon to yield measurable returns.
Regarding **market size**, its positive yet weak correlation with FDI supports the hypothesis that foreign firms are attracted to larger domestic markets (Chakrabarti, 2001). However, given the short time frame, its impact may not be fully reflected in investment flows, especially in sectors where long-term market penetration strategies dominate.

Surprisingly, **governance** shows minimal influence on FDI in the given period. While institutional quality, such as rule of law, regulatory stability, and anti-corruption mechanisms, is generally considered vital in shaping investor confidence (Globerman & Shapiro, 2002), the static or modest year-to-year changes in Indonesia's governance indicators during this time might explain the low statistical relevance.

In conclusion, while the model explains some variation in FDI based on economic fundamentals, its **limited temporal scope (only two years)** reduces the explanatory power and significance of the results. Future studies should utilize extended time-series or panel data to capture more robust trends and causal relationships. Nonetheless, this study

reinforces the relevance of labor cost competitiveness and infrastructure readiness as key determinants of FDI inflows into emerging economies like Indonesia.

5. Conclusion

Based on the results of the multiple linear regression analysis of Indonesia's Foreign Direct Investment (FDI) data from 2016 to 2017, it can be concluded that the model explains approximately 56.5% of the variance in FDI, as indicated by the R Square value of 0.565. However, the Adjusted R Square is lower at 0.316, suggesting that only 31.6% of the variation in FDI is meaningfully explained by the model when adjusted for the number of predictors. The F-test results show that the overall regression model is not statistically significant (Sig. = 0.162 > 0.05), meaning that the combination of the four independent variables—Infrastructure, Labor Cost, Market Size, and Governance—does not simultaneously have a statistically significant impact on FDI.

Individually, the t-test reveals that Labor Cost significantly negatively influences FDI at the 5% level (Sig. = 0.050), indicating that an increase in labor costs may discourage foreign investment. On the other hand, Infrastructure, Market Size, and Governance exhibit positive but statistically insignificant relationships with FDI. This suggests that while these variables are theoretically relevant, there is insufficient statistical evidence to support their direct influence on FDI during the period under study. In conclusion, the findings emphasize that labor cost is a critical determinant of FDI, whereas other macroeconomic factors may require further investigation or alternative analytical approaches to reveal their significance. Future research should consider a broader data range, sectoral disaggregation, and regional dimensions to deepen the understanding of FDI drivers in Indonesia.

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