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Determinants of Foreign Direct Investment in Indonesia: Do Presidential Regimes Matter?

Ghazali Syamni[1*], Rizal Ansari[2], M. Shabri Abd. Majid[3], Marzuki[4], Chairil Akhyar[5]

[1,5]Faculty of Economics and Business, Universitas Malikussaleh, Indonesia
[2,4]Faculty of Economics and Business, Universitas Abulyatma, Indonesia
[3]Faculty of Economics and Business, Universitas Syiah Kuala, Indonesia
E-mail: [1]ghazali.syamni@unimal.ac.id, [2]rizal.ansari_ekm@abulyatama.ac.id, [3]mshabri@usk.ac.id, [4]marzuki_eka@abulyatama.ac.id, [5]chairil.akhyar@unimal.ac.id

[*]**Corresponding author**

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ABSTRACT

Research Originality: The originality of the research is the separation of data in different governments. The request is based on the leadership style, especially in the era of President Susilo Bambang Yudhoyono and President Jokowi.

Research Objectives: This study examines the determinants of foreign direct investment (FDI), both in the short and long term in Indonesia during the leadership of Presidents Susilo Bambang Yudhoyono (SBY) and Joko Widodo (Jokowi).

Research Methods: This study uses time series data on the World Development Indicators website from 2004 to 2021. Using Autoregressive Distributed Lag (ARDL)

Empirical Results: This study finds evidence that institutional quality, economic growth, and presidential regime in the short and long run significantly positively affect FDI. Meanwhile, the population negatively influences FDI in Indonesia in both the short and long run.

Implications: These findings imply that to draw in more foreign direct investment (FDI), Indonesia must enhance institutional quality, economic growth, presidential governance, and population control.

Keywords:

foreign direct investment, institutional quality; tax rate; economic growth, population, inflation

How to Cite:

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INTRODUCTION

As a developing country, Indonesia has shaped its foreign policy to attract Foreign Direct Investment (FDI) as a critical financial resource for economic development, starting from the presidency of Susilo Bambang Yudhoyono (2004-2014). Each president has prioritized different aspects of national growth. During Yudhoyono's tenure, the focus was on enhancing Indonesia's international influence. However, since Joko Widodo assumed office in 2015, the government's emphasis has shifted toward infrastructure investment and strengthening domestic industries, with support from FDI (Widiatmaja & Albab, 2019).

State development and construction require significant sources of funding. FDI is an essential funding source for economic growth and development projects. Giakoulas et al. (2022) state that FDI plays an important role but is strongly influenced by the country and company's effectiveness. According to Jaiblai and Shenai (2019), FDI is a significant funding source for a country's development, which is influenced by the non-economic and economic factors for the flow of FDI capital from foreign countries to domestic countries, especially developing countries (Jurčić et al., 2020).

FDI is essential for developing countries because it benefits investors and local governments (Asongu et al., 2018). For this reason, the government must adopt proactive policies that benefit the investment community (Contractor et al., 2021). A country's FDI can increase up to 70% if the government adopts investment-friendly guidelines and has democratic political and social conditions (Götz, 2020; Jensen, 2003). In addition, different government leadership philosophies also have an impact on foreign company investment (Edo et al., 2020). Bailey (2018) and Paul and Feliciano-Cestero (2021) state that participating countries and multinational corporate institutions investing in recipient countries through FDI will be seen as a huge and crucial aspect of international trade in the future. However, global companies investing in a country have indicators related to FDI flows from institutions and countries. The better institutional quality (I.Q.) of the destination country is one of the indicators relevant to attracting foreign direct investment. Oyebamiji et al. (2021) define I.Q. as a measure of a country's ability to manage corruption, implement effective regulations, and enforce the law. In choosing whether to invest FDI in a country, Bailey (2018) highlights the leading I.Q. indicators related to political stability, rule of law, and democracy.

According to empirical research, conflicting I.Q. findings have an impact on FDI. Ullah and Khan (2017) found that I.Q. impacts FDI in ASEAN, ASIA, and SAARC, GDP, Investment, and economic freedom also have a favorable effect on FDI in SAARC countries. Meanwhile, FDI is negatively influenced by labor and the government. Apart from the long-term cointegration between I.Q. and economic integration, Canh et al. (2021) found a negative relationship between I.Q. and FDI globally. According to Sabir et al. (2019), I.Q. impacts foreign FDI in high-income countries, especially in low- and middle-income countries.

I.Q. can encourage increased inward FDI in 79 countries (Awodumi, 2021). George et al. (2021) stated that I.Q. is not a determining factor for FDI in five African countries.

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Ogbonna et al. (2022) stated that the I.Q. reduces FDI flows to 46 African countries in an uncertain global environment. According to Aziz (2018; 2022), the I.Q does not directly influence FDI in Saudi Arabia. Studying BRICS countries, Chaudhry et al. (2022) found that the environment has a moderating effect on the negative relationship between I.Q. and FDI. Political institutions, taxation, population, economic growth, I.Q. and inflation, according to Dang and Nguyen (2021), have a detrimental impact on FDI in ASEAN.

The I.Q. of the Southern Central Coast (SCC) states was cited as a factor attracting FDI Hoang et al. (2022). Although the economic situation in developing countries also impacts the FDI, Huynh (2022) states that increasing FDI strongly correlates with increasing I.Q. In 34 Asian and European countries, Lee (2021) found that FDI is not linearly correlated with I.Q. The low I.Q. is not correlated with high FDI, and vice versa. I.Q. significantly influences the changes in FDI absorption (Sabir et al., 2019; Ullah & Khan, 2017; Aziz, 2022). A country's I.Q. ranking is an attractive factor that must be met to attract FDI and be chosen as an international business destination (Rygh et al., 2023; Samadi & Alipourian, 2021; and Silajdzic & Mehic, 2022).

A study in Indonesia by Suryanta and Patunru (2022) indicates that GDP and workforce skills directly influence Foreign Direct Investment (FDI). While intelligence quotient (I.Q.) contributes to FDI, the primary drivers of high FDI levels are macroeconomic factors, political openness, and infrastructure development in Indonesia. Additionally, Jazuli et al. (2022) argue that I.Q. enhances a country's competitiveness, which fosters economic growth and development in Indonesia. However, factors such as population, culture, and education also play significant roles.

Macroeconomic variables, besides I.Q., can influence whether or not FDI enters a country (Sabir et al., 2019; Suryanta & Patunru, 2022). The security and comfort of investments made by investors depend on macroeconomics that aligns with expectations. This is because investors use macroeconomic data as one of the indicators to determine their investment goals (Adebayo et al., 2020; Chiappini & Viaud, 2021; Ghahroudi & Chong, 2020; Ho & Rashid, 2011; Iwasaki & Tokunaga, 2020; Kueh & Soo, 2020).

Sabir et al. (2019) and Awad (2020) conclude that GDP and inflation adversely impact FDI in rich countries but had a favorable impact in developing countries. Inflation affects FDI in Iran (Ghahroudi & Chong, 2020; Kueh & Soo, 2020). Pavel et al. (2021) state that taxes impact FDI, and a country's tax structure is a significant determining factor in FDI by investors in Europe.

Furthermore, Davies et al. (2021) found that tax rates vary depending on the country of investment destination because FDI may be subject to different taxes depending on the country of origin and destination country. According to Dang and Nguyen (2021), who studied 7 ASEAN countries, taxes and inflation significantly impact foreign direct investment. Hsu et al. (2019) found that taxes are not a determining factor for FDI in China. According to Esteller-Moré et al.(2020), the non members of the OECD countries

experience a decrease in FDI due to higher taxes. Boly et al. (2020) revealed that the imposition of corporate taxes impacts net FDI in the destination countries.

The population of a country that is a recipient of FDI is also a determining element that influences FDI. According to Abdouli et al. (2018), the population in the BRICS countries favorably influences FDI. Adeniyi (2022) found that in 40 countries, FDI was influenced by a healthy population. Population, inflation, and economic growth in Nigeria are mentioned as factors by Nyoni and Bonga (2018). Due to legal issues, Da Fonseca and Jucá (2020) viewed that tax variables are too complex to be used as determining factors for international companies investing in other countries. Yiew and Lau (2018) stated that a country's FDI is supported by its population.

In addition, several other studies show that there are still differences in research findings. In South Eastern European (SEE) countries, Silajdzic and Mehic (2022) found a trade-off between I.Q. and FDI. Qamruzzaman (2023) revealed that there is still a short-term or long-term knowledge asymmetry regarding economic policy uncertainty with I.Q. in India and Pakistan. Because FDI directly and indirectly strengthens the Nigerian economy, Dada and Abanikanda (2022) found that I.Q. significantly influences Nigeria. Kaushal (2021) states that FDI in India is weakly affected by loose regulations.

The reviewed studies demonstrate that previous research presents varying findings regarding the factors influencing FDI. This study, however, offers a unique perspective by examining how I.Q. is applied at specific points during the two presidential regimes of President SBY and President Jokowi, highlighting the differences in their personalities and I.Q. levels. This distinction has not been explored in prior research on FDI determinants in Indonesia. This study aims to identify the factors affecting short-term and long-term FDI between 2004 and 2009.

The presidential regimes in Indonesia have implemented various policies. Therefore, this research has two objectives and provides a valuable contribution. First, the study explores the short—and long-run effects of institutional quality, economic growth, tax rate, population, and inflation on FDI in Indonesia. Second, the study investigates the extent to which the presidential regimes of SBY and Jokowi contribute to attracting FDI into Indonesia from both short—and long-run perspectives.

Thus, the study analyzes FDI measurement in Indonesia in various government situations, especially during the SBY and Jokowi administrations. Different emphases on development management across eras of the presidency contribute to the importance of measuring FDI. The government-era variable is used as a categorical variable in this research to highlight its superior qualities compared to related previous studies.

Therefore, the research contributes to various fields. First, we used principal components analysis to create a more accurate measure of institutional quality. Second, the current study fills the gap and contributes to the existing literature by examining various institutional factors where the Indonesian government has continuously tried to foster business reforms and improve IQ: starting a business, labor freedom, resolving bankruptcy, and cross-border trade. The third and most important justification for the influence of

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institutional and macroeconomic quality on FDI is good regulation and consistency in attracting foreign investment in the short and long term. Third, the government can utilize these findings to create successful strategies by regulating or creating institutional quality indicators to ensure incoming FDI is highly quality as the financial source for national economic development.

Environmental taxes can be broadly defined as taxes imposed on goods and services associated with environmental degradation, such as pollution, resource exploitation, and waste, or as direct taxes on environmental "bads" (Bosquet, 2020). For instance, carbon and emission taxes are considered environmental taxes, as they aim to reduce pollution-related emissions. Taxes applied to goods and services with high emission levels are known as output taxes, whereas those directly targeting harmful emissions fall under carbon emission taxes. In Indonesia, taxing these negative externalities has long been implemented, primarily through output taxes.

The recent initiative to adopt a carbon tax at the central level, as stipulated in Law 7 2021, complemented an already existing type of tax that can also be linked to mitigating emissions at the lower government level. For example, some of the taxes levied at the provincial level may indirectly mitigate carbon emissions. At the provincial level, there are taxes on recurrent annual vehicles tax; the vehicle registration tax refers to the tax that is levied when there is a change in vehicle ownership, and to some extent, there are also gasoline taxes. Although there is a subsidy at the national level for gasoline consumption, the provinces still receive tax revenues based on gasoline consumption at the gas (pump) station in the respective province. In addition to tax instruments, the government also implemented programs related to environmental protection. By the function of spending, spending is allocated for environmental protection at the central and lower-level governments.

This study aims to investigate the relationship between the presence of environmental tax and spending on air quality at the subnational level. We use Indonesia, a developing country that has introduced environmental tax and spending at the provincial level since the introduction of the decentralization era. Environmental protection in Indonesia is conducted not only by the national or central government but also by the lower-level governments. As a country with three tiers of government, the central – provincial – and local governments (municipalities or cities level of government), the policies on environmental protection naturally translate into taxes and expenditure policies at central and lower-level governments. However, the discussion in the existing literature, for the case of Indonesia, referring to the context of its multi-level government, rarely discusses tax policies and their link to government spending despite the nature and type of taxes and functional spending assigned to lower-level government.

Vehicle-related taxes constitute a major component of provincial tax revenue in most provinces, comprising 70 to 80% of total provincial tax income. However, on the expenditure side, environmental spending accounts for less than 1% of the total provincial budget on average. This limited allocation significantly constrains the scope and

effectiveness of environmental protection initiatives at the provincial and local government levels.

In terms of environmental outcomes, the government has regularly issued provincial-level environmental quality indexes since 2009. This environmental quality index includes the water quality index, air quality index, and land quality index. The environmental spending at both provincial and local governments is mainly in the form of spending on waste and sanitation. Thus, its linkages with water and land quality need to be clarified. Meanwhile, the air-quality index can be attributed to the main objective of vehicle-related taxes.

This study extends the ongoing literature in several areas. First, existing literature on the impact of environmental taxes and or environmental spending is primarily discussed in terms of type or specific program assessment referring to taxes or expenditure-related policies (Fullerton & Muelegger, 2019; Kaufmann, 2019; Kulin & Seva, 2019; Fairbrother, 2017). Regarding the tax-spending mix, only a few studies conducted taxes and spending as part of policy option assessment (Sommer et al., 2022). This paper uses Indonesia as a case study to examine a large developing country's context in a decentralized economy.

The working of policies may be inter-related, as policies on taxation may also function as a disincentive to emit emissions and or reduction in the consumption and or ownership of the respective goods and services perceived to contribute to carbon emission affecting as well not only private but also government response in terms of its public spending (Aydin & Esen, 2018; Safi et al., 2021). Given this context, the second research gap of this study is to understand which instruments, environmental-related taxes, and or the spending program on the environment may contribute to improving environmental protection indicators.

Prior studies in Indonesia, most of them separately, address the impact of sub-national level environmental spending or particular sub-national government revenues on the outcome of environmental protection (Mutiara et al., 2021; Cadman et al., 2019). The environmental protection outcome that is used in those studies is mainly on the forestry-related outcome, which is generally only applied to some regions, especially provinces with large urban areas. The novelty of our study is that it examines a more general context of the sub-national government's intervention by linking the use of environmental-related taxes/revenues with the spending allocation in the respective sector.

This study makes a significant contribution to the empirical literature on FDI in Indonesia, focusing on the differences in economic policies during the leadership of President Susilo Bambang Yudhoyono (SBY) and President Joko Widodo (Jokowi). The research examines the period from 2004 to 2021, a crucial time frame for understanding the economic dynamics under these two different presidencies. This specific geographic and temporal focus enables a deeper understanding of the regulatory policy changes and the factors influencing them in Indonesia. By emphasizing the country's unique economic, political, and technical conditions, this study provides more nuanced insights into how

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policies implemented during these two eras have affected FDI inflows. Additionally, the analysis of the 2004–2021 period offers an opportunity to compare how differing regulatory policies under SBY and Jokowi have influenced the investment climate and how the interaction of these policies with other factors has impacted the levels and composition of FDI in Indonesia.

This study is limited to the provincial level, given that environmental taxes are relatively dominant taxes for the provinces rather than local governments. As we do not include the environmental taxes of the municipalities, the spending correspondence in this study is only assessed at the provincial government level as well. This study is structured as follows: Section 2 explains the data and method. Section 3 discusses and analyzes the empirical result. The last section concludes the paper.

METHODS

This study utilizes time series data from the World Development Indicators website, spanning the period from 2004 to 2021. The data up to 2021 are robust and comprehensively available, facilitating a deeper and more detailed analysis. The dataset includes information on tax rates, institutional quality, economic growth (measured by Gross Domestic Product – GDP), population, and inflation (Table 1). To increase the number of observations, quarterly data for this research were interpolated from annual data.

According to Tang (2008), interpolated data offers the advantage of increasing statistical power due to a larger number of observations, resulting in more accurate and unbiased model estimations. The -t- Chow-Lin approach was applied to produce 68 quarterly data points for each variable, enabling more reliable conclusions (Zhou, 2001). The use of consistent and valid quarterly interpolation techniques is supported by previous empirical studies (Dash et al., 2022; Rashid & Jehan, 2013; Tang & Chua, 2012). The study examines six independent variables—namely, institutional quality, tax rates, GDP, population, inflation, and the period of presidential regimes—and one dependent variable, FDI. To construct a composite index of institutional quality (I.Q.), we conducted a principal component analysis (PCA).

This study adopts the Autoregressive Distributed Lag (ARDL) model. estimating time series data for cointegration, the ARDL model developed by Pesaran et al. (2001) and; Pesaran and Shin (1995) is more valid and consistent for testing short-run and long-run relationships than alternative cointegration testing techniques. The advantage of the ARDL method is that it can provide accurate and reliable estimation results, both for small and large sample numbers. According to Odhiambo (2009), this method is different from other traditional methods because this method allows the stationarity test to be carried out at several levels of integration, such as I(0), I(1), or both, while other conventional methods limit the integration sequence of the stationarity test. The ARDL approach eliminates short-term and long-term dynamic impacts and obtains balanced results by using time series data over a short period (Li & Shao, 2022).

Table 1. Operational Variables

Variables	Definitions	Measurements	Scales	Sources
FDI	Total foreign investment is divided by GDP.	FDI_{it} = *Total investment*$_{it}$:GDP_{it}	Ratio	World Bank, World Development Indicators online database
Institutional Quality (IQ)	Corruption index developed by the International Country Risk Guide (ICRG).	Indicators of democracy and accountability, political stability and absence of crime or terrorism, government effectiveness, quality of regulations, the rule of law, and oversight of corruption.	Ratio	World Bank, Worldwide Governance Indicators online database
Tax Rate (TR)	Tax ratio of tax revenues as a percentage of GDP.	Tax Ratio of tax revenue as a percentage of GDP.	Ratio	World Bank: World Development Indicators online database
Gross Domestic Product (GDP)	Annual GDP growth percentage rate.		Ratio	World Bank, World Development Indicators online database)
Population (PP)	Number of populations	Population	Nominal	World Bank, World Development Indicators online database)
Inflation (INF)	Annual inflation rate	Percentage change in the consumer price index	Ratio	World Bank, World Development Indicators online database)
T. P	Presidential regime time	SBY presidential period (2004-2014) = 0, Jokowi presidential period (2015-2021) = 1	Categorical (Dummy)	n. a

To measure the effects of determinants of the FDI in the short-term, the study estimates the following model:

$$D(FDI_{it}) = \beta_0 + \beta_1 D(INSQ_t) + \beta_2 D(TR_t) + \beta_3 D(GDP_t) + \beta_4 D(PP_t) + \beta_5 D(INF_t) + \beta_6 (D) + \varepsilon_t \quad (1)$$

Meanwhile, the long-term effects of determinants of FDI is estimated using the following model:

$$\Delta FDI_{it} = \beta_0 + \beta_1 \Delta(INSQ)_t + \beta_2 \Delta(TR)_t + \beta_3 \Delta(GDP)_t + \beta_4 \Delta(PP)_t + \beta_5 \Delta(INF)_t + \beta_6 \Delta(D) + \varepsilon_t \quad (2)$$

where FDI is the Foreign Direct Investment; IQ is institutional quality, TR is tax rate, GDP is gross domestic product, PP is population, D is dummy period and ε is error term.

The unit root test is first carried out to validate the stationarity of the variables before estimating the ARDL model. The Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) unit root tests, which are often used in the literature, have the benefit of illustrating a series of structural breaks that cause biased results (Sufyanullah et al., 2022). Second, we test the long-term relationship between the variables using the cointegration

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test. According to Pesaran et al. (2001)when it is not known with certainty whether the underlying regressors are trend- or first-difference stationary. The proposed tests are based on standard F- and t-statistics used to test the significance of the lagged levels of the variables in a univariate equilibrium correction mechanism. The asymptotic distributions of these statistics are non-standard under the null hypothesis that there exists no level relationship, irrespective of whether the regressors are I(0, when the bound F-statistic value is greater than the crucial values I(1) and I(0), cointegration is confirmed, which indicates that the relationship is likely to persist over time. To test the short-term and long-term stability of the model. We use plots of the cumulative sum of cumulative sums ((CUSUM) and CUSUMSQ) to test the strength of the short-run and long-run models (Brown et al., 1975).

RESULT AND DISCUSSION

Table 2 reports the descriptive statistics of the investigated variables. As illustrated in Table 2, a low coefficient of variation in the data was due to the low standard deviation (SD) value compared to the average. The average for the previous period was 1.8775 with a SD of 0.6724, which indicates that FDI fluctuations were quite low compared to GDP during the period studied. The institutional quality variable has the highest and lowest negative values (1.5465 and -0.98417), and a negative average value of 0.4106 with a SD of 0.7416. This shows how bad institutional governance in Indonesia is currently in general. The average value of the tax rate is 11.0248, with a negative SD of -1.3593, and the lowest and highest values are 8.3129 and 13.3106, respectively.

Table 2. Descriptive Statistics

Var.	Mean	SD	Min	Max
FDI	1.8775	0.6724	0.4873	2.9161
IQ	0.4106	0.7416	-0.9817	1.5465
TR	11.0248	1.3593	8.3129	13.3106
GDP	3.7558	1.7438	-2.0650	6.3450
PP	258,067,787.90	10,228,075.64	240,615,369.87	274,597,930.37
INF	5.6461	3.0415	1.5601	13.1086

Indonesia's potential for trade openness remains promising, even with relatively high tax rates. The country's GDP fluctuates between -2.065 and 6.345, with an average of 3.7558 and a standard deviation (SD) of 1.7438, indicating that Indonesia's economic growth is generally trending in a positive direction. With a population of 274 million, Indonesia has an average population of 258,067,787 and a SD of 10,228,075, presenting significant consumer market potential. Lastly, inflation ranges from 1.56% to 13.10%, with an average of 5.6461% and a SD of 3.0415, suggesting that Indonesia's economy remains robust and favorable for investment. Findings from stationarity tests and conventional assumptions, as well as the results of residual estimates using the statistical software of EViews, are reported in Table 3.

Table 3. Unit Root Tests

Variables	Stationary tests	ADF	PP
FDI	Levels	-4.3436***	-4.5469***
IQ	Levels	-1.1713	-1.5547
	First Difference	-3.3463***	-3.5941
TR	Levels	-1.0900	-0.7281
	First Difference	-3.2711***	-3.4619***
GDP	Levels	-0.1750	-0.2541
	First Difference	-4.7514***	-4.8806***
PP	Levels	-2.0153	-1.3024
	First Difference	-3.4980	-3.6451
INF	Levels	-0.7765	-0.7920
	First Difference	-5.3433***	-5.3433***

Note: *** significant at 1%. ADF is Augmented Dickey-Fuller Test. PP is Phillips-Perron Test.

As indicated in Table 3, the results of the stationarity test conducted as part of the Autoregressive Distributed Lag (ARDL) Model analysis were employed to verify the order of integration. This study utilized the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests to assess the stationarity of the time series data. Evaluating the stationarity of both the ARDL variables and residuals is essential for obtaining reliable results when implementing the ARDL model. The application of the ARDL model ensures a consistent and stable relationship between the variables, effectively avoiding spurious associations.

The variables in this research are stationary at the level and first different, according to the ADF and P.P. test results in the table. At the level, the FDI variable is significant. At the first level of difference, the variables IQ, TR, GDP, PP, and INF is stationary. Based on the results of the ARDL residual cointegration test, which shows the level of stationarity, the ARDL model used is valid and robust to prevent misleading in estimating the Autoregressive Distributed Lag Model (ARDL) both in the short and long term between variables. In addition, before assessing ARDL, a free explanation regarding the fulfilment of cointegration and stability tests is offered to ensure the model is accurate and valid in the short and long term (Sufyanullah et al., 2022)

The results of the ARDL cointegration test based on the F-statistic F are presented in Table 3. With significance levels of 1%, 2.5%, 5%, and 10%, the F-statistic value of 8.2439 exceeds the upper critical limit value, thus concluding that FDI, IQ, T.R., GDP, P.P., and INF have a long-run equilibrium cointegration relationship in this example. Because of these findings, the null hypothesis in this study, which states that there is no cointegration, is rejected.

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Table 4. ARDL Bounds Test Cointegration

F-Bounds Test	Value	Sign.	I(0)	I(1)
		10%	2.53	3.59
F-Statistics	8.2439	5%	2.87	4
Regressor	6	2.5%	3.19	4.38
		1%	3.6	4.9

Note: The table reports the Bound test. H0 for the time-series Bound test is that there is no cointegration within variables. *; **; and *** denote significant at 10%, 5%, and 1% respectively

In addition, the results of verifying the stability of long-term model coefficients using the cumulative sum (CUSUM) of recursive residues and the cumulative sum of squares of recursive residues (CUSUMSQ) proposed by Brown et al. (1975).

Figure 1. The plot of the Cumulative Sum of Recursive Residuals

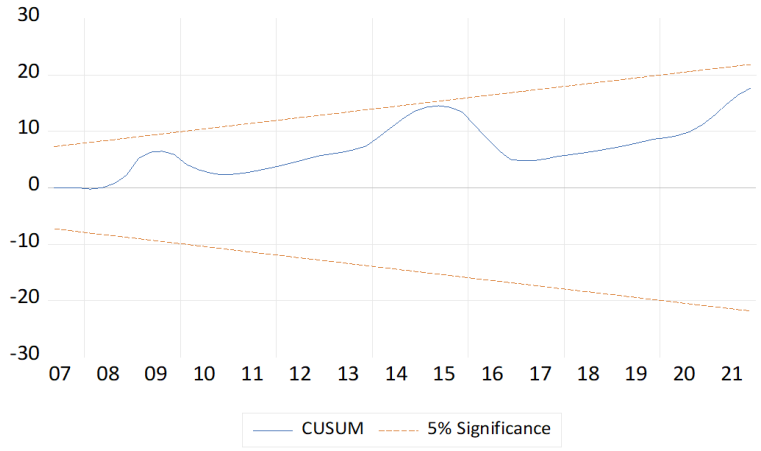
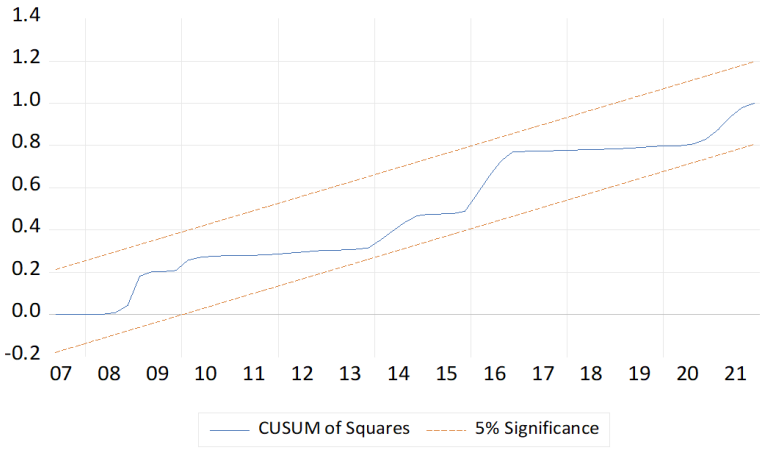


Figure 2. Plot of Cumulative Sum of Squares of Recursive Residuals



Our models are structurally stable, proven by the evaluation results of the CUSUM and CUSUMQ statistical plots shown in Figure 1 and Figure 2. There are no sudden structural changes because the values do not exceed the crucial limit value at the

5% significance level. The model used in this research is acceptable and valid in the long term; changes in the cumulative numbers are constant, and the 95% confidence interval has no effect. Because the ARDL model passes all previous diagnostic tests, these findings conclude that this model is suitable for estimating short-term and long-term relationships.

Table 5 explains the findings from the regression estimates of variables influencing FDI over the last decade. Short-term estimation findings show that FDI is not affected by tax rates or inflation. This can be observed from the respective coefficient values of -0.0217 and -0.0253, below the thresholds of 1%, 2%, and 10%. Meanwhile, the estimation results for the institutional quality variable (IQ), GDP, Population Number (PP), and the presidential regimes' dummy variables are respectively 0.3784***, 0.3417***, -2.8299***, and 0.7339***, with a significant level of 1%.

Table 5. ARDL Model Estimation in the Short and Long Term

Panel A: short run	Coeff.	S.D	T-Statistic	Prob.
IQ	0.3784***	0.1015	3.7285	0.0004
TR	-0.0217	0.0783	-0.2775	0.7823
GDP	0.3417***	0.0914	3.7367	0.0004
PP	-2.8299***	0.6519	-4.3407	0.0001
INF	-0.0253	0.0273	-0.9271	0.3574
Dummies	0.7339***	0.1986	3.6940	0.0005
C	2.5232	0.9852	2.5611	0.0129
Panel B: Long run				
IQ	1.4442***	0.5159	2.7995	0.0068
TR	-0.0829	0.2960	-0.2801	0.7803
GDP	1.3039***	0.4070	3.2036	0.0021
PP	-10.7988***	3.6663	-2.9453	0.0045
INF	-0.0966	0.1205	-0.8015	0.4259
Dummies	2.8006***	0.8145	3.4383	0.0011
Panel C: Specification tests; F-Stat = 333.3026; P-value = 0.0000; R2 = 0.8230				

Note. ***, *** and * (level of significance 1%, 5% and 10%)

Meanwhile, the long-term analysis revealed that the independent variables—institutional quality (IQ), GDP, population (PP), and government dummy—significantly influenced FDI. Conversely, the tax rate and inflation variables did not demonstrate significance. This finding is further supported by the F-statistics (Table 5: Panel C). Additionally, the post-decade analysis shows that FDI attracted during the SBY administration was notably higher than the Jokowi administration, highlighting a superior performance in FDI attraction during the former's tenure.

Based on the estimation results from the Auto-Regressive Distributed Lag (ARDL) model, Foreign Direct Investment (FDI) in Indonesia is influenced by institutional quality

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(IQ), economic growth (GDP), population (PP), and presidential regime dummies over the past decade. In contrast, tax rates (T.R.) and inflation (INF) do not exert significant effects in the short term. These findings are consistent with the long-term determinants of FDI in Indonesia. The variable for institutional quality demonstrates a significant positive influence on FDI, both in the short and long term. This result aligns with Ullah and Khan (2017), which tested various regions; Canh et al. (2021), which utilized global data; Sabir et al. (2019), which examined countries across different income levels; and Ogbonna et al. (2022), which focused on Africa, all of which identified a positive relationship between institutional quality and FDI.

The observed inverse relationship indicates that the institutional quality of a country can become unstable in the eyes of investors, leading to a decline in FDI value. In essence, as institutional quality improves, the Indonesian government can further attract FDI. This study underscores the importance of institutional quality as a significant factor influencing FDI in Indonesia, highlighting the crucial role that government policies can play. However, this result contrasts with the findings of Peres et al. (2017) and Asongu et al. (2018), which reported that institutional quality did not significantly impact FDI in developing countries. The regulations regarding institutional quality set by the government suggest that these factors effectively enhance service quality and encourage FDI inflows into Indonesia. Furthermore, this indicates that foreign investors are not overly concerned about sudden policy changes, preferring to invest in countries with stable institutional quality and consistent policies.

In contrast, tax rates do not significantly affect FDI in the short or long term. These results imply that the Indonesian government's tax policies must be more effective and may hinder investor attraction. This finding aligns with research by Jemiluyi and Jeke (2023), which examined African countries, and Camara (2023), which focused on 90 developing countries, concluded that a country's tax structure does not significantly influence FDI. The negative impact of taxes on FDI indicates that foreign investors are reluctant to invest in countries where high tax rates erode profits. Supporting this, Shirodkar and Konara (2017) also found that taxes negatively impact FDI due to reduced profitability for firms. This result highlights that the Indonesian government has yet to adopt competitive strategies, such as tax exemptions or reductions, to provide incentives for attracting foreign investment. Consequently, taxes remain a primary determinant for foreign investors when making investment decisions, as they often compare tax rates with those in other countries.

Moreover, GDP exhibits a relatively large positive coefficient in the short and long term. This trend suggests that Indonesia's welfare is improving, and its reliance on other countries is diminishing alongside GDP growth. This improvement indicates that Indonesia may be outperforming other countries in terms of investment. These conclusions affirm the influence of GDP on FDI, as supported by the studies of Awad (2020), Sabir et al. (2019), and Suryanta & Patunru (2022).

This study highlights the significance of economic growth and its influence on foreign direct investment (FDI) in Indonesia. Economic growth has short-term and long-

term effects, creating greater opportunities for foreign investors to generate profits as they recognize the potential for increased product sales. Indonesia has experienced consistent annual economic growth, indicating a stronger capacity to absorb FDI. Economic growth catalyzes attracting FDI, bringing employment opportunities, technology, and enhanced productivity to recipient countries (Jui et al., 2024).

In addition, the population plays a significant role in impacting FDI, although the coefficient is negative in both the short and long term. This result suggests that, despite Indonesia's sizeable working-age population, the country needs to be in a favorable demographic position. These findings align with research on FDI by Wei et al. (2022) focusing on China, Arain et al. (2019) investigating the South Asian region, and Immurana (2021) in Ghana. They demonstrate that FDI has not effectively absorbed Indonesia's demographic capital and available labor force, which prioritizes skilled labor and high productivity. Our results indicate that population growth may hinder FDI inflows, as investors may encounter a workforce with lower qualifications. This decline in productivity can lead to reduced profitability, as foreign investors may be concerned about low returns on investment and the additional costs associated with training new employees (Immurana et al., 2023). Furthermore, Indonesia's relatively low per capita income can diminish demand for goods and services, further limiting investment potential.

Lastly, inflation appears to have an insignificant impact on FDI, with a negative coefficient in both the short and long term. Indonesia's inflation rate remains reasonable, allowing investors to achieve satisfactory investment returns. The relatively stable inflation in Indonesia serves as a favorable indicator for attracting FDI, suggesting that one reason for continued FDI inflows is the potential value of investments reflecting low economic risk. The government's ability to manage inflation significantly influences FDI flows (Ndoricimpa, 2017). Effective government policies that maintain inflation at controlled levels smooth the economic cycle, promoting growth through the efficient use of productive resources. In the long term, this approach fosters an increase in FDI directed toward Indonesia.

These findings are consistent with research by Tung (2019) in Vietnam, Feng and Wen (2023) in China, and Edo and Nnadozie (2023) in Sub-Saharan Africa, all of which indicate that inflation does not significantly affect foreign direct investment. The SBY and JKW administrations can influence FDI through categorical variables represented by dummy coefficients. However, the SBY era has more effectively attracted investors to Indonesia. As noted by Götz (2020) and Jensen (2003), the era of democratization presents a more favorable environment for investors and multinational corporations.

CONCLUSION

This study holds significant importance as it delves into the short-term and long-term effects of various factors influencing foreign direct investment (FDI) in Indonesia from 2004 to 2021. The findings reveal that institutional quality (IQ), GDP growth,

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and the presidential regime (represented by dummy variables for SBY and JKW) have a substantial positive impact on FDI growth in both the short and long term. Conversely, the analysis uncovers that population growth, inflation, and tax rates have a significant negative effect on FDI during the same periods.

These results carry significant implications for policy and regulatory frameworks in Indonesia. The positive trajectory of institutional quality suggests that the country's institutions and regulations are effectively designed to attract FDI. Government reforms aimed at reducing regulatory complexity have significantly bolstered FDI inflows. The government needs to maintain consistent economic growth, as this will further enhance FDI. This condition can be achieved through stable macroeconomic policies, improved financial access, and a well-structured tax system. Currently, the existing tax structure poses challenges that can deter foreign investment; thus, the government must establish regulations and laws that streamline access for foreign investors looking to allocate their capital in Indonesia.

Furthermore, while Indonesia has maintained a relatively stable inflation rate over the past two decades, this stability presents its own set of challenges for investors. The government should implement a policy that establishes an annual inflation target, which can help encourage further FDI. Additionally, population growth remains a concern as a shortage of knowledge and skills necessary for sustainable development often accompanies it. To address this, the government must prioritize and invest in training and education initiatives that equip citizens with the skills needed, particularly in anticipation of the demographic dividend expected in 2045.

The analysis suggests that FDI inflows were more robust during the SBY administration, attributed to a reliance on soft political power and high-level governance strategies that enhanced Indonesia›s standing in various global and international forums. However, this study does have limitations, as it only analyzes data from two presidential regimes—SBY and Jokowi. Future research should consider a more extended timeframe, incorporating additional presidential administrations since Indonesia's independence in 1945, to provide a more comprehensive understanding of FDI dynamics in the country.

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