Foreign Direct Investment, Abundance of Natural Resources, and Economic Growth

Muhammad Aja Fajrian^{1*}, Noer Azam Achsani², Widyastutik³

^{1,3}Faculty of Economics and Management, IPB University, Indonesia
 ¹BPS - Statistics of Bolaang Mongondow Regency, Indonesia
 ²School of Business, IPB University, Indonesia
 ³ITAPS FEM IPB, Indonesia
 E-mail: ¹ajafajrian@apps.ipb.ac.id, ²achsani@yahoo.com, ³widyastutik@apps.ipb.ac.id

*Corresponding author

JEL Classification:	Abstract	
F43	The impact of foreign direct investment (FDI) on the host	
O4	country's economic growth is often discussed without considering	
P28	the abundance of natural resources in the host country. The present	
P45	study examines the relationship between FDI and economic growth	
Q0	while considering the presence of natural resources. Using pa	
	data regression with data from 124 countries, the study finds	
	that FDI inflows are increasing significantly, with pronounced	
Received: 27 December 2022	differences between countries based on their per capita income	
	levels. The results of the panel data regression analysis show	
Revised: 07 January 2023	that both FDI and natural resources positively affect economic	
	growth. However, an increase in natural resources reduces the	
Accepted: 14 January 2023	overall impact of FDI on economic growth. This result suggests that	
	countries should attract FDI in sectors outside of natural resources	
Available online: 15 April 2023	to maximize the positive effects of FDI on economic growth.	
Published regularly: April 2023		
	Keywords:	
	foreign direct investment; natural resources abundance; economic	
	growin, paner data regression	

How to Cite:

Fajrian, M. A., Achsani, N. A., & Widyastutik. (2023). Foreign Direct Investment, Abundance of Natural Resources, and Economic Growth. *Signifikan: Jurnal Ilmu Ekonomi*, 12(1), 11-26. https://doi.org/10.15408/sjie.v12i1.29975.

INTRODUCTION

A country's economic development is measured through its economic growth. A variety of factors can influence a country's economic growth, including capital accumulation (investment in land, equipment, infrastructure, facilities, and human resources), natural resources, human resources, technological progress, access to information, and the desire to innovate and develop (Todaro & Smith, 2006). Governments, in both developed and developing countries, often implement policies to attract foreign direct investment (FDI) to stimulate economic growth. According to the World Trade Organization (WTO), FDI occurs when investors from one country (the home country) acquire assets in another country (the host country) and manage them. FDI is known to have a significant economic impact because it can benefit both the host and home countries (Kayani et al., 2021). Additionally, FDI is considered the most stable and prevalent foreign capital inflow in developing countries (Hobbs et al., 2021).

Foreign direct investment (FDI) can directly influence a recipient country's inflation rate, government spending, and GDP growth rate (Kayani et al., 2021). It is expected to stimulate domestic investment and complement limited savings and investment potential to drive economic growth (Mehic et al., 2013). According to Miao et al. (2021), the impact of FDI on economic growth is also influenced by improvements in institutional quality indicators. Besides, trade openness can promote economic growth through various intermediaries such as technology transfer, FDI attraction, access to foreign exchange, and access to capital equipment for development (Opoku et al., 2019).

According to the United Nations Conference on Trade and Development (UNCTAD) World Investment Report (WIR) in 2022, global foreign direct investment (FDI) flows reached \$1.58 trillion in 2021, a 64% increase from the previous year's level of nearly \$1 trillion. This return to similar investment levels as in 2019, before the COVID-19 pandemic, was not evenly distributed globally. Investment flows to developed countries grew by 134% in 2021, while developing countries only had a 34% increase. It is worth noting that developed countries, suggesting that developed countries are more sensitive to global shocks.

In 2021, global foreign direct investment (FDI) flowed generally improved across all regions of the world. The group of developed countries saw a significant increase, with FDI flows to European and North American countries growing by 171% and 145%, respectively. In the group of developing countries, FDI flows to developing Asian countries increased by 19%, a record high, with a total investment value of \$619 billion. FDI drove this increase in flows to East and Southeast Asian countries. In addition, FDI flows also increased by 56% in Latin American and Caribbean countries and more than doubled in African countries. This condition suggests that countries worldwide use FDI as a tool for economic recovery following the COVID-19 pandemic.

In theory, foreign direct investment (FDI) benefits are crucial for the host country's economic growth. Many economists believe that FDI can benefit both the investor's

home country (usually a developed country) and the host country (often a developing country that is rich in natural resources and has cheap and abundant labor). However, FDI can also have negative consequences. For example, it can be used as a way for western industrialized countries to exploit and gain control over developing countries (Yuliani, 2019). According to Ali et al. (2019), FDI may not support the economic growth of developing countries because domestic industries cannot compete with foreign industries that offer low-priced products. Developed countries may only utilize the assets of developing countries to generate profits and use them as a source of production inputs. Developing countries may only serve as a source of cheap raw materials and a place to produce goods with cheap labor. They may also become the largest consumers of products from multinational corporations (MNCs) (Haryadi, 2008). MNCs can be seen as a tool used to strengthen the hegemony of capitalists in developing countries, leading to increasing dependence on MNCs in these countries (Damanhuri, 2010).

Empirically, the impact of foreign direct investment (FDI) on economic growth in both developed and developing countries is still debatable. Many studies have been conducted on this topic, with some finding that FDI can boost economic growth. Meanwhile, others have found no evidence or weak evidence of such an effect. Orji et al. (2021) found that FDI can increase economic growth, and therefore governments should aim at attracting FDI in all sectors, particularly the industrial and service sectors. This result is supported by the findings of Ahmad et al. (2022), who observed that FDI could drive economic growth. Gochero & Boopen (2020) found that FDI in the mining sector can increase economic growth in both the short and long terms. Awunyo-Vitor & Sackey (2018) also found that FDI in the agricultural sector can accelerate economic growth, which is supported by the research of (Chandio et al., 2019), which saw a solid causal relationship between FDI in the agricultural sector and economic growth. However, other studies have found different results. Bouchoucha & Bakari (2019) found that FDI harm short-term and long-term economic growth. Kolisi (2021) found that FDI in the manufacturing sector negatively impacts long-term economic growth, and Meivitawanli (2021) found that FDI negatively impacts economic growth.

Hayat (2018) studied the relationship between foreign direct investment (FDI) and economic growth, as well as the impact of natural resource abundance in the host country on this relationship, using data from 104 countries in the period 1996-2015. The results showed that FDI positively and significantly affects the host country's economic growth. However, the effect of FDI inflows on economic growth changes as the size of the natural resource sector changes. As the size of natural resources increases, the estimated positive impact of FDI inflows on economic growth decreases. A further increase in the size of the natural resource sector leads to a negative effect of FDI on economic growth. Adika (2022) investigated the complementary roles of economic integration, natural resources, and FDI in explaining economic growth in the Southern African Development Community (SADC) region. The study used OLS and IV estimators to control for potential endogeneity. The results showed that regional economic integration significantly increases economic growth in the region. Natural resources and FDI jointly and substantially impact economic growth in resource-rich countries in the region. Additionally, domestic factors such as gross domestic savings and human capital significantly influence economic growth in the region.

The relationship between natural resource abundance and economic growth has been widely studied. Sachs & Warner (1995) demonstrated that countries with abundant natural resources tend to grow more slowly than countries with scarce natural resources, a phenomenon known as the "natural resource curse." There have also been numerous studies on the effect of natural resources on FDI. Poelhekke & Ploeg (2012) found that abundant natural resource assets positively impact natural resource FDI but negatively impact non-natural resource FDI. Asiedu (2013) also found that natural resources harm FDI and that the resource curse of FDI persists even after controlling for institutional quality and other important determinants of FDI. Bakari & Mabrouki (2017) examined the impact of agricultural exports on economic growth in Southeast Europe and found that agricultural exports are strongly correlated and positively impact economic growth. Zagozina (2014) found similar results in former Soviet Union member countries. According to Barbier (2019), many low- and middle-income countries today rely heavily on exploiting their natural resources for export-oriented commercial and economic activities, particularly exports of primary products such as agricultural raw materials, food, ores, and metal commodities.

There have been many studies on the impact of foreign direct investment (FDI) on economic growth. This study aims to fill in some gaps left by previous research by exploring the effect of FDI on economic growth while considering the factor of natural resource abundance in the host country, which is often overlooked. The strength and novelty of this study lie in its use of a larger data set and a longer period. Additionally, the analysis simulates the effect of total FDI on economic growth under four different conditions of natural resource abundance: 1) no increase in natural resource abundance, 2) natural resource abundance increases by 1%, 3) natural resource abundance increases by its average value, and 4) natural resource abundance doubles or increases by 100%. This condition allows the researchers to analyze how the effect of FDI on economic growth changes in natural resource abundance in the host country.

Given the limited literature on the topic and the background and formulation of the problem, this study aims to examine the effect of foreign direct investment (FDI) on economic growth by considering the factor of natural resource abundance in the host country. The study will analyze the growth of FDI inflows based on the group of countries per capita income levels worldwide. It will also explore the effect of FDI on economic growth while considering the host country's natural resource abundance and several other control variables.

The results of this study are expected to provide useful information for governments of both developed and developing countries as they consider policies related to FDI and natural resources that can increase economic growth. This research is also expected to be a valuable reference for future studies, particularly those focused on the relationship between FDI, natural resource abundance, and economic growth at the global level.

METHODS

The data for this study were obtained from secondary sources, including the World Development Index (WDI) World Bank Database and the Worldwide Governance Indicators (WGI). The data is panel data, comprising time series data from 1996-2020 and a cross-section of 124 countries worldwide. The data used in the study are shown in the table below:

Variables	Description and Source
Gross Domestic Product (GDP)	The growth rate of real GDP per capita (Economic Growth) (WDI)
Foreign Direct Investment (FDI)	Share of FDI inflows to GDP (WDI)
Natural resource (NR)	Share of natural resource exports to total exports of goods and services (WDI)
Inflation (INF)	Annual CPI growth rate (WDI)
Trade openness (TRADE)	The ratio of exports and imports to GDP (WDI)
Government expenditure (GE)	The ratio of government consumption expenditure to GDP (WDI)
Population growth (POP)	Annual population growth rate (WDI)
Domestic investment (DS)	The ratio of gross domestic savings to GDP (WDI)
Institutional quality (IQUAL)	Level of institutional quality, an average of six different indicators of institutional quality and governance: political stability and absence of violence, voice and accountability, control of corruption, government effectiveness, the rule of law, and regulatory quality (WGI)

Table 1. Variables, Descriptions, and Data Sources in Research

The descriptive analysis method was used to answer the first objective of analyzing FDI inflow growth in groups of countries based on their per capita income level. The quantitative methods, including panel data regression analysis, were used to address the second objective of analyzing the effect of FDI on economic growth while considering the host country's natural resource abundance, and several other control variables.

The model used to examine the effect of foreign direct investment (FDI) on economic growth while considering the natural resource abundance factor was based on the research model used by Hayat (2018):

$$GDP_{it} = \alpha + \beta FDI_{it} + \delta NR_{it} + \theta (FDI_{it} * NR_{it}) + \gamma X_{it} + \nu_{it}$$
(1)

Description:

 GDP_{it} : Economic growth; FDI_{it} : Share of FDI inflows to GDP; NR_{it} : Share of natural resource exports to total exports of goods and services; X_{it} : Other exogenous variables as control variables include data on inflation, trade openness, government consumption expenditure, population growth rate, gross domestic savings, and institutional quality;

 v_{it} : Error term; α : Constant; β , δ , θ : Coefficient; i: Country; t: Year.

RESULTS AND DISCUSSION

The development of FDI and GDP per capita by income group can be seen in Figures 1 and 2. Both FDI inflows and per capita income in each income group have generally trended upwards. While it cannot be directly concluded that higher FDI inflows in a country lead to higher per capita income for its population, there is a significant gap in FDI inflows between groups of countries based on their per capita income levels. Figure 1 shows that FDI inflows have been dominated by high-income countries (HICs) over the past 25 years, with an average of \$1,204.21 billion per year. The highest total realization was in 2007 at \$2,599.07 billion, and the lowest was in 2018 at \$319.95 billion. Meanwhile, FDI inflows in upper-middle-income countries (UMICs) have been relatively stagnant, with an average of \$324.59 billion. FDI flows appeared to have gained significant momentum due to the thriving M&A market and rapid growth in international project finance, likely caused by favorable financing conditions and large infrastructure stimulus packages.

Figure 1. FDI Inflows and per Capita Income in the High-Income and Upper-Middle-Income Country Groups, 1996-2020



Source: World Development Indicators (WDI) 2022, processed

As shown by GDP per capita, Figure 1 illustrates a significant gap in average per capita income levels between HICs and UMICs. In terms of data patterns, it can be seen that per capita income in both HICs and UMICs has generally trended upwards during the 1996-2020 period. Hlaváček & Bal-Domańska (2016) found that foreign direct investment in Central and Eastern European countries has become an essential indicator of economic development and a measure of external confidence in the stability and growth of their economies.

As shown in Figure 2, FDI inflows to lower-middle-income countries (LMICs) have experienced a significant upward trend over the past 25 years, as indicated by the trendline. On average, LMICs have received approximately US\$82.11 billion in FDI, with the highest total amount being realized in 2019 at US\$147.23 billion and the lowest in 2000 at US\$12.53 billion. In contrast, FDI inflows to low-income countries (LICs) have remained relatively stagnant, with an average of US\$9.47 billion. Developing economies could withstand the pandemic's adverse effects better than developed economies. However, in developing regions and economies in transition, foreign direct investment (FDI) inflows were more significantly impacted by the pandemic's effect on investment in activities that are intensive in global value chains, tourism, and resources. Additionally, the unequal availability of fiscal space for implementing economic support measures also contributed to the regional differences observed.



Figure 2. FDI Inflows and per Capita Income in the Lower Middle-Income and Low-Income Country Groups, 1996-2020

Source: World Development Indicators (WDI) 2022, processed

Regarding the level of per capita income as measured by GDP per capita, Figure 2 illustrates a considerable gap in the average value of per capita income levels between lower-middle-income countries (LMIC) and low-income countries (LIC) when compared to the two higher-income groups. Of course, it is expected that there will be a significant difference between income groups. The data pattern shows that in both LMIC and LIC, the average level of per capita income during the 1996-2020 period tends to increase annually. Similar to the FDI inflows, the average value of per capita income level in LMIC has experienced a significant upward trend over the last 25 years compared to the other three income groups.

The effects of FDI on economic growth in a sample of 124 countries worldwide were analyzed, taking into account the host country's natural resource abundance and several other control variables. The first step in model selection is to conduct a Chow test to determine whether the best model is the common effect model (CEM) or fixed effect model (FEM). The test results showed that the fixed effect model (FEM) was selected. Furthermore, the Hausman test was conducted to choose the best model between the fixed effect model (FEM) and the random effect model (REM). The test results showed that the fixed effect model between the fixed effect model (FEM) was selected. Thus, from the results of the Hausman test that has been carried out, the fixed effect model (FEM) is more appropriate among the other two models, namely the common effect model (CEM) and the random effect model (REM). Therefore, the econometric output results with the FEM model will be analyzed and interpreted.

Variables	Common Effect Model	Fixed Effect Model	Random Effect Model
	(CEM)	(FEM)	(REM)
FDI	0.000183	0.000632**	0.000642**
	(0.000858)	(0.000303)	(0.000302)
NR	0.004251*	0.002177*	0.002130*
	(0.000561)	(0.000454)	(0.000445)
FDI*NR	-0.000288*	-4.39E-05**	-4.60E-05**
	(4.75E-05)	(1.80E-05)	(1.80E-05)
INF	-0.000191	-0.001010*	-0.000980*
	(0.000476)	(0.000163)	(0.000162)
TRADE	0.002203*	0.002104*	0.002281*
	(0.000234)	(0.000220)	(0.000215)
GE	0.027370*	0.012571*	0.014454*
	(0.002456)	(0.001875)	(0.001849)
POP	-0.099827*	0.007194	0.004309
	(0.007893)	(0.004504)	(0.004474)
DS	0.026540*	0.012191*	0.012959*
	(0.001001)	(0.000730)	(0.000720)
IQUAL	1.490324*	0.445932*	0.541608*
	(0.037318)	(0.035665)	(0.034551)
R-squared	0.716927	0.971570	0.238227
Adjusted R-squared	0.716102	0.970304	0.236006
Prob(F-statistic)	0.000000	0.000000	0.000000
Chow Test Statistic		215.835704	
(p-value)		(0.0000)	
Hausman Test Statistic		156	.149087
(p-value)		(0	.0000)

Table	2.	Regression	Results
-------	----	------------	---------

Source: Author Computation, 2022

Description:

FDI=Foreign Direct Investment, NR=Natural Resources, INF=Inflation,

TRADE=Trade Openness, GE= Government Expenditure, POP=Population,

DS=Domestic Saving, IQUAL= Institutional Quality

Note: *, ** and ***: significant at 1%, 5% and 10% respectively

The Glejser test is conducted to check for the presence of heteroscedasticity in the fixed effect model (FEM). From the results of the Glejser test, it can be seen that there is a violation of heteroscedasticity, namely in the NR variable (prob. 0.0000), INF (prob. 0.0000), TRADE (prob. 0.0000), GE (prob. 0.0000), and IQUAL (prob. 0.0011). A residual cross-section dependence test is conducted to check whether or not there is a serial correlation between cross-sections. The test results show that in all tests, the value of prob. < 0.05, there is a cross-section serial correlation. So, to overcome these two problems, a fixed effect regression model and weighted white/robust standard error regression were re-run to overcome the heteroscedasticity and autocorrelation problems. According to Baltagi (2021), the application of white/robust standard errors can overcome the problem of heteroscedasticity or serial correlation. The output of these regression results will then be used for analysis and interpretation.

Next, from the multicollinearity test results, it can be seen that there is no correlation between variables worth more than 0.8 (Spearman's Rho Correlation). It can be concluded that the independent variables in the model do not have a linear relationship with other independent variables. Furthermore, the regression results show that the adjusted R-squared is 0.9703, indicating that the diversity of the independent variables can explain 97.03% of the variety of the dependent variable in the sample of 124 countries. The prob(F-statistic) value is significant (p<0.05), indicating that at least one of the independent variables has a significant effect on the dependent variable (economic growth) at a significance level of 5%.

The previous analysis determined that the fixed effect model (FEM) with white/ robust standard error regression weighting was the best model to analyze the effect of FDI and several other variables on economic growth. The results show that FDI has a positive and significant effect on economic growth, as indicated by the coefficient value of 0.000632 at the 1% significance level (see Table 2). This result means that a 1% increase in FDI inflow is associated with a 0.000632% increase in economic growth, all else equal. A country with a favorable environment for investments makes it simple for businesses to operate and provides resources, and good safety and security will become increasingly attractive to investors. This aspect will make the country more competitive in attracting foreign investment. The inflow of capital can serve as a powerful stimulus for a country's economy. It can also lead to the transfer of new technologies, which can help increase productivity, thus, leading to the economy's overall growth.

Previous research has shown that FDI can bring new technology and knowledge to the host country, improve productivity, and provide access to global markets (de Gregorio, 2003; Eudelle & Shrestha, 2017). Asghari et al. (2014) argue that FDI can contribute to economic growth in several ways. One is adding to domestic savings, which can help overcome capital accumulation limitations. Another is facilitating technology transfer, which can lead to more efficient use of resources and increased productivity. In addition, FDI can help boost exports by expanding the capacity and competitiveness of domestic production. This result is consistent with the findings of multiple studies (Mehic et al., 2013; Alvarado et al., 2017; Hayat, 2017; Sultanuzzaman et al., 2018; Dinh et al., 2019; Shittu et al., 2020; Zeeshan et al., 2020; Mohamed et al., 2021; Nasir et al., 2021; Orji et al., 2021; Ahmad et al., 2022), which have found that an increase in FDI inflows can stimulate economic growth. In addition, Raza et al. (2021) discovered that countries with high institutional quality tend to have stronger economic growth and more foreign direct investment (FDI) inflows.

The abundance of natural resources, as measured by the share of natural resource exports, has a positive and significant effect on economic growth, as indicated by the coefficient value of 0.002177. This result means that a 1% increase in the abundance of natural resources is associated with a 0.002177% increase in economic growth, all else being equal. De Gregorio (2003) found that countries with high levels of human capital and extensive natural resource bases, such as Scandinavian countries, can leverage their natural resources for economic growth without negative consequences. Industrialized countries have also been able to protect their natural resources and reduce their reliance on raw materials through technological advancement (Redmond & Nasir, 2020; Haseeb et al., 2021; Adika, 2022). Natural resource abundance tends to increase per capita incomes in countries with less government intervention, more sound money, better property rights protection, less openness to international markets, or less government corruption (Kim & Lin, 2017). Furthermore, Erum & Hussain (2019) claim that appropriate management and governance of natural resources can promote economic growth.

The influence of the natural resource abundance factor on the effect of FDI on economic growth can be analyzed by comparing the impact of FDI on economic growth before and after taking the natural resource abundance factor into account using an interaction variable between FDI inflow and the share of natural resource exports (FDI*NR). The total effect of FDI on economic growth can be calculated by deriving equation (1) on FDI to obtain equation (2) as follows Hayat (2018):

$$Y_{it} = \alpha + \beta F DI_{it} + \delta NR_{it} + \theta (F DI_{it} * NR_{it}) + \gamma X_{it} + \varphi_{it}$$
(1)
$$\frac{dY_{it}}{dF DI_{it}} = \beta + \theta NR_{it}$$
(2)

The interaction variable between FDI inflow and the share of natural resources exports (FDI*NR) is negative and significant at the 10% significance level (see Table 2). This indicates that changes in the value of the NR variable are expected to lead to an adverse change in the effect of FDI on economic growth. This aspect can be demonstrated by substituting different values for NR into equation (2), using the known values of β = 0.000632 and θ =-4.39E-05. If the NR variable is ignored or there is no growth in natural resource abundance (NR=0), the effect of FDI on economic growth is 0.000632, as shown by the first condition. If the abundance of natural resources increases by 1%, the value of NR = 1 is inserted into equation (2), resulting in a total effect of FDI on economic growth of 0.000588%.

Further testing with the average value of NR (25.598530), which represents an increase in the abundance of natural resources by its average, shows that the total effect of FDI on economic growth changes to -0.000492%. The impact of FDI on economic

growth continues to decline and becomes negative as the abundance of natural resources increases. When NR is set at 100, meaning that the abundance of natural resources doubles, the total effect of FDI on economic growth becomes increasingly negative at -0.003758%. This result is consistent with the research findings of (Hayat, 2014, 2018), which suggest that FDI has a positive and significant effect on the host country's economic growth. However, the positive effect of FDI on economic growth can change and become negative as the abundance of natural resources increases. A summary of the changes in the effect of FDI on economic growth resulting from the simulation of different values of natural resource abundance is shown in Table 8 for reference.

Observations	The total effect of FDI on economic growth		
FDI when NR = 0	0.000632 (Positive)		
FDI when NR = 1	0.000588 (Positive)		
FDI when NR = 25.59 (average NR)	-0.000492 (Negative)		
FDI when NR = 100	-0.003758 (Negative)		

 Table 3. The Effect of FDI on Economic Growth by Simulating Several Values of Natural Resource Abundance

Source: Author Computation, 2022

According to Hayat (2018), the role of the natural resource abundance factor in changing the effect of FDI on economic growth is through capital accumulation in the natural resource sector. A country's natural resource abundance can attract FDI, leading to more significant capital accumulation in the natural resource sector and lower accumulation in the non-natural resource sector (Kekic, 2005). Increased activity in the resource sector due to increased FDI can make firms operating in the non-resource sector less competitive, potentially negating the positive impact of FDI on economic growth. Asghari et al. (2014) suggest that abundant natural resources may decrease the motivation for individuals and governments to invest in human capital, as non-wage income, such as dividends and social spending, may be high and taxes low. However, they also note that a boom in the extraction and export of natural resources can cause the value of a country's currency to appreciate, which may negatively impact the exports of manufactured and service-based industries.

Willebald et al. (2015) argue in their book "Natural Resources and Economic Growth: Learning from History" that economic development is not solely dependent on the accumulation of physical and human capital. There is a third form of "capital" or "economic asset" that is essential for the performance of production, consumption, investment, saving, and welfare systems, which is referred to as "natural capital". This term refers to the natural and environmental resource endowment available to an economy. Natural capital is crucial for sustainable economic development, but an economy's increasing reliance on natural resource exploitation can hinder growth and development, particularly for low- and middle-income countries (Barbier, 2019). These countries often

depend on their natural resource endowments for economic growth and development, as natural capital may be their only source of capital. According to the Hecksher-Ohlin (H-O) modern trade theory, countries tend to export commodities that have abundant and relatively cheap and import factors of production that are scarce or expensive in their own country. Furthermore, other control variables, namely the inflation rate, the level of trade openness, government spending, domestic investment, and institutional quality, were found to affect economic growth significantly.

CONCLUSION

The results of the descriptive analysis show that the development of FDI inflows to various countries has increased significantly over the past 25 years, with significant inequality between countries based on their per capita income. FDI inflows are higher in countries with larger economies, as measured by their high per capita income. Therefore, governments in low-income countries should strive to attract more FDI to catch up with high-income countries in terms of economic development, consistent with the eighth goal of the Sustainable Development Goals (SDGs) to promote sustainable economic growth through increased productivity and technological innovation. The results of the panel data regression analysis show that FDI inflows and the abundance of natural resources have a significant positive effect on the host country's economic growth. However, as the abundance of natural resources increases, the total effect of FDI on economic growth is estimated to decrease and may even turn negative.

Countries worldwide should pay more attention to several essential factors impacting economic growth. Both high-income countries (HICs) and middle-income countries (MICs) should focus on increasing foreign direct investment (FDI) inflows, particularly in the non-natural resource sector. This condition will help increase economic growth and maintain natural resource management and institutional quality. For low-income countries (LICs), governments should study FDI and natural resource management policies more intensively. They should also implement strict legal regulations on FDI entry requirements and international investment cooperation. In addition, they should enforce policies that improve institutional quality, such as good governance, the rule of law, and low levels of corruption. These conditions can accelerate the process of technology spillover from FDI firms to domestic firms. LICs can emulate the policies implemented in HICs and MICs, which have a high institutional quality. FDI and abundant natural resources will positively benefit these countries economic growth. In addition, host countries should consider lowering entry barriers for institutional investors while protecting the public interest. To improve the risk-return profile of investment projects related to the Sustainable Development Goals (SDGs) and make them more appealing to institutional investors, these countries can use risk-sharing tools such as public-private partnerships, investment insurance, and blended financing. Measures should also be taken to maximize the developmental benefits of these projects.

Further research is recommended to use more cross-sectional (country-level) data to investigate further the effect of FDI, natural resource abundance, and other variables

on economic growth. This research should also categorize countries based on their per capita income levels and use graphical analysis to examine the relationship between FDI, natural resource abundance, and economic growth. Additionally, the influence of economic shocks such as the 2008 global economic crisis and the Covid-19 pandemic should be considered, along with variables that have not been included in this study.

REFERENCES

- Adika, G. (2022). Regional Economic Integration, Natural Resources and Foreign Direct Investment in SADC. *Journal of Economics and Development*, 24(1), 33–46. https:// doi.org/10.1108/jed-02-2021-0021.
- Ahmad, M. S., Szczepankiewicz, E. I., Yonghong, D., Ullah, F., Ullah, I., & Loopesco,
 W. E. (2022). Does Chinese Foreign Direct Investment (FDI) Stimulate Economic
 Growth in Pakistan? An Application of the Autoregressive Distributed Lag (ARDL
 Bounds) Testing Approach. *Energies*, 15(6). https://doi.org/10.3390/en15062050.
- Ali, H., Farooq, F., Sardar, K., & Masood Bhutta, Z. (2019). How Does Foreign Direct Investment Affect Economic Growth in Pakistan: A Time Series Data Analysis. *Review of Economics and Development Studies*, 5(3). https://doi.org/10.26710/reads. v5i3.711.
- Alvarado, R., Ińiguez, M., & Ponce, P. (2017). Foreign Direct Investment and Economic Growth in Latin America. *Economic Analysis and Policy*, 56, 176–187. https://doi. org/10.1016/j.eap.2017.09.006.
- Asghari, M., Hilmi, N., & Safa, A. (2014). FDI Effects on Economic Growth: The Role of Natural Resource and Environmental Policy. *Topics in Middle Eastern and African Economies*, 16(2), 85-104.
- Asiedu, E. (2013). Foreign Direct Investment, Natural Resources and Institutions. International Growth Center (IGC) Working Paper.
- Awunyo-Vitor, D., & Sackey, R. A. (2018). Agricultural Sector Foreign Direct Investment and Economic Growth in Ghana. *Journal of Innovation and Entrepreneurship*, 7, 15. https://doi.org/10.1186/s13731-018-0094-3.
- Bakari, S., & Mabrouki, M. (2017). The Effect of Agricultural Exports on Economic Growth in South-Eastern Europe: An Empirical Investigation Using Panel Data. 2(4), 49-64.
- Baltagi, B. H. (2021). Econometric Analysis of Panel Data (Sixth Edition). Berlin: Springer.
- Barbier, E. B. (2019). Natural Resources and Economic Development (2nd Edition). Cambridge: Cambridge University Press.
- Bouchoucha, N., & Bakari, S. (2019). The Impacts of Domestic and Foreign Direct Investments on Economic Growth: Fresh Evidence from Tunisia. *Journal of Smart Economic Growth*, 6(1), 83-102.
- Chandio, A. A., Mirani, A. A., & Shar, R. U. (2019). Does Agricultural Sector Foreign Direct Investment Promote Economic Growth of Pakistan? Evidence from Cointegration and

Causality Analysis. World Journal of Science, Technology and Sustainable Development, 16(4), 196-207. https://doi.org/10.1108/wjstsd-05-2019-0025.

- Damanhuri, D. S. (2010). Ekonomi Politik dan Pembangunan. Teori, Kritik dan Solusi bagi Indonesia dan Negara Sedang Berkembang. Bogor: IPB Press.
- De Gregorio, J. (2003). The Role of Foreign Direct Investment and Natural Resources in Economic Development. *Central Bank of Chile Working Paper No. 196.*
- Dinh, T. T.-H., Vo, D. H., The Vo, A., & Nguyen, T. C. (2019). Foreign Direct Investment and Economic Growth in the Short Run and Long Run: Empirical Evidence from Developing Countries. *Journal of Risk and Financial Management*, 12(4), 176. https://doi.org/10.3390/jrfm12040176.
- Erum, N., & Hussain, S. (2019). Corruption, Natural Resources and Economic Growth: Evidence from OIC Countries. *Resources Policy*, 63, 101429. https://doi. org/10.1016/j.resourpol.2019.101429.
- Eudelle, P., & Shrestha, A. (2017). Foreign Direct Investment and Economic Growth: The Cases of Singapore and Oman. *Global Policy*, 8(3), 402–405. https://doi. org/10.1111/1758-5899.12482.
- Gochero, P., & Boopen, S. (2020). The Effect of Mining Foreign Direct Investment Inflow on the Economic Growth of Zimbabwe. *Journal of Economic Structures*, 9, 54. https://doi.org/10.1186/s40008-020-00230-4.
- Haryadi. (2008). Dampak Liberalisasi Perdagangan Pertanian Terhadap Perekonomian Negara Maju dan Berkembang. (*Unpublished Thesis*). Bogor: IPB University.
- Haseeb, M., Kot, S., Iqbal Hussain, H., & Kamarudin, F. (2021). The Natural Resources Curse-Economic Growth Hypotheses: Quantile–on–Quantile Evidence from Top Asian Economies. *Journal of Cleaner Production*, 279, 123596. https://doi. org/10.1016/j.jclepro.2020.123596.
- Hayat, A. (2014). FDI and Economic Growth: The Role of Natural Resources. MPRA Working Paper No. 60781.
- Hayat, A. (2017). Foreign Direct Investments, Institutional Framework and Economic Growth. *MPRA Working Paper No. 76205*.
- Hayat, A. (2018). FDI and Economic Growth: the Role of Natural Resources? *Journal of Economic Studies*, 45(2), 283–295. https://doi.org/10.1108/JES-05-2015-0082.
- Hlaváček, P., & Bal-Domańska, B. (2016). Impact of Foreign Direct Investment on Economic Growth in Central European Countries. *Engineering Economics*, 27(3), 294-303. https://doi.org/10.5755/j01.ee.27.3.3914.
- Hobbs, S., Paparas, D., & AboElsoud, M. E. (2021). Does Foreign Direct Investment and Trade Promote Economic Growth? Evidence from Albania. *Economies*, 9(1), 1. https://doi.org/10.3390/economies9010001.
- Kayani, F. N., Al-Ammary, O. M., & Sadiq, M. (2021). Inward FDI and Economic Growth Nexus: A Case of Emerging Brazil from Latin America. *Scientific Papers of the University of Pardubice, Series D: Faculty of Economics and Administration*, 29(3), 1-8. https://doi.org/10.46585/sp29031344.

- Kekic, L. (2005). Foreign direct investment in the Balkans: recent trends and prospects. Southeast European and Black Sea Studies, 5(2), 171–190. https://doi. org/10.1080/14683850500122687.
- Kim, D.-H., & Lin, S.-C. (2017). Natural Resources and Economic Development: New Panel Evidence. *Environmental and Resource Economics*, 66(2), 363–391. https://doi. org/10.1007/s10640-015-9954-5.
- Kolisi, N. (2021). Manufacturing Sector Foreign Direct Investment and Economic Growth in South Africa. Southern Africa – Towards Inclusive Economic Development (SA-TIED) Working Paper No. 161.
- Mehic, E., Silajdzic, S., & Babic-Hodovic, V. (2013). The Impact of FDI on Economic Growth: Some Evidence from Southeast Europe. *Emerging Markets Finance and Trade*, 49(SUPPL.1), 5–20. https://doi.org/10.2753/REE1540-496X4901S101.
- Meivitawanli, B. (2021). Research on the Relationship between Provincial Foreign Direct Investment and Economic Growth: An Empirical Study in Indonesia. *Journal of International Studies*, 14(1), 241–257. https://doi.org/10.14254/2071-8330.2021/14-1/17.
- Miao, M., Borojo, D. G., Yushi, J., & Desalegn, T. A. (2021). The Impacts of Chinese FDI on Domestic Investment and Economic Growth for Africa. *Cogent Business* and Management, 8(1), 1886472. https://doi.org/10.1080/23311975.2021.1886472.
- Mohamed, M. M. A., Liu, P., & Nie, G. (2021). Are Technological Innovation and Foreign Direct Investment a Way to Boost Economic Growth? An Egyptian Case Study Using the Autoregressive Distributed Lag (ARDL) Model. Sustainability, 13(6), 3265. https://doi.org/10.3390/su13063265.
- Nasir, M. S., Wibowo, A. R., & Yansyah, D. (2021). The Determinants of Economic Growth: Empirical Study of 10 Asia-Pacific Countries. *Signifikan: Jurnal Ilmu Ekonomi*, 10(1), 149–160. https://doi.org/10.15408/sjie.v10i1.18752.
- Opoku, E. E. O., Ibrahim, M., & Sare, Y. A. (2019). Foreign Direct Investment, Sectoral Effects and Economic Growth in Africa. *International Economic Journal*, 33(3), 473–492. https://doi.org/10.1080/10168737.2019.1613440.
- Orji, A., Nwagu, G. U., Ogbuabor, J. E., & Anthony-Orji, O. I. (2021). Foreign Direct Investment and Growth Nexus: Further Evidence from Africa's Largest Economy. *Journal of Infrastructure Development*, 13(1), 65–78. https://doi.org/10.1177/09749306211024433.
- Poelhekke, S., & van der Ploeg, R. (2012). Do Natural Resources Attract FDI? Evidence from Non-Stationary Sector Level Data. *CEPR Discussion Papers 8079.*
- Raza, S. A., Shah, N., & Arif, I. (2021). Relationship Between FDI and Economic Growth in the Presence of Good Governance System: Evidence from OECD Countries. *Global Business Review*, 22(6), 1471–1489. https://doi.org/10.1177/0972150919833484.
- Redmond, T., & Nasir, M. A. (2020). Role of Natural Resource Abundance, International Trade and Financial Development in the Economic Development of Selected Countries. *Resources Policy*, 66, 101591. https://doi.org/10.1016/j.resourpol.2020.101591.

- Sachs, J., & Warner, A. (1995). Natural Resource Abundance and Economic Growth. NBER No. 5398. https://doi.org/10.3386/w5398.
- Shittu, W. O., Yusuf, H. A., el Moctar El Houssein, A., & Hassan, S. (2020). The Impacts of Foreign Direct Investment and Globalisation on Economic Growth in West Africa: Examining the Role of Political Governance. *Journal of Economic Studies*, 47(7), 1733–1755. https://doi.org/10.1108/JES-09-2019-0446.
- Sultanuzzaman, M. R., Fan, H., Akash, M., Wang, B., & Shakij, U. S. M. (2018). The Role of FDI Inflows and Export on Economic Growth in Sri Lanka: An ARDL Approach. *Cogent Economics & Finance*, 6(1), 1518116. https://doi.org/10.1080/2 3322039.2018.1518116.
- Todaro, M. P., & Smith, S. C. (2006). *Economic Development* (8th Edition). New Jersey: Pearson Education.
- United Nations Conference on Trade and Development [UNCTAD]. (2022). World Investment Report (WIR). Switzerland: United Nations Conference on Trade and Development.
- Willebald, H., Badia Miró, M., & Pinilla, V. (2015). Introduction: Natural Resources and Economic Development – What Can We Learn from History? In Badia-Miró, M., Pinilla, V., & Willebald, H. (Eds), *Natural Resources and Economic Growth: Learning from History*, pp. 1–25. United Kingdom: Routledge.
- Yuliani, F. (2019). Dampak Spillover FDI Terhadap Nilai Tambah dan Produktivitas Perusahaan Domestik Pada Sub Sektor Industri Makanan. (*Unpublished Thesis*). Bogor: IPB University.
- Zagozina, M. (2014). The Resource Curse Paradox: Natural Resources and Economic Development in the Former Soviet Countries. *(Unpublished Thesis).* Helsinki: University of Helsinki.
- Zeeshan, M., Han, J., Rehman, A., Bilal, H., Farooq, N., Waseem, M., Hussain, A., Khan, M., & Ahmad, I. (2020). Nexus Between Foreign Direct Investment, Energy Consumption, Natural Resource, and Economic Growth in Latin American Countries. *International Journal of Energy Economics and Policy*, 11(1), 407–416. https://doi.org/10.32479/ijeep.10255.