EFFECTS OF ECONOMIC GROWTH AND EXCHANGE RATE ON FDI INFLOWS IN SOUTH AFRICA

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Abstract

Due to its sophisticated industrial base and technological capabilities, South Africa's economic trajectory differs significantly from those of other African nations.However, despite these benefits, the nation continues to face issues such as high unemployment, inequality, and structural inefficiencies that impede sustainable foreign direct investment inflows. Based on this, this study evaluates effects of economic growth, exchange rates on foreign direct investment inflows in South Africa. The data for the study were obtained from World Development Indicator (WDI, 2024) which covered from 1990-2023. The ARDL methods were employed to analyze the data. The findings show that GDP is positive over the long term and the primary factor influencing foreign direct investment inflow into South Africa. Urbanization and import (-2) are positive in the long run and short-run, which suggests that in the short term, rising prices are significant to a certain degree in stimulating foreign direct investment inflows.The study recommended that optimal long-term gain can be ensured by providing selective incentives to high-value businesses including manufacturing, green energy, and technology. Furthermore, sustainable and equitable growth depends on sectoral FDI's appeal, especially to closely related industries like manufacturing and technology.

Introduction

Due to its sophisticated industrial base and technological capabilities, South Africa's economic trajectory differs significantly from those of other African nations. With a wealth of natural resources, a reasonably well-developed infrastructure, and a diverse economic base, South Africa is among the most industrialized and technologically advanced country in Africa. However, despite these benefits, the nation continues to face issues such high unemployment, inequality, and structural inefficiencies that impede sustainable growth (Enaifoghe et al., 2021). Its economic structure has been impacted by the legacy of apartheid-era policies, which have contributed to ingrained inequalities that still influence current policy goals (Muyambi and Ahiaku, 2025).

Foreign direct investment (FDI) is essential for promoting sustainable economic emancipation in any country. FDI is undoubtedly the key factor advancing the growth of the recipient country as global economic integration rises. In addition to providing developing countries with much-needed financial resources, this capital inflow facilitates the transfer of

management expertise and technological advancements. Because of the rising competition for FDI from both wealthy and developing countries, governments are offering a variety of incentives to investors. These incentives are typically fiscal measures such as reduced tax rates for foreign investors and relaxed repatriation regulations. Furthermore, the availability of infrastructure becomes a vital part in pulling in foreign investors, causing governments to devote large sums of money to assist their economies (Pea-Assounga et al., 2025; Voumik et al., 2023).

Fundamentally, as financial and economic interdependence between rich and poor nations has developed, FDI has begun to play a bigger role in global trade. This in turn is the effect of several causes, including the spread of institutional investors, economic liberalization and information technology improvement. Foreign direct investment (FDI) flows are preferred by developing countries over foreign portfolio investment because they are believed to have a positive impact on several macroeconomic indicators, such as GDP and exports. However, a country's foundations and overall economic management may become more challenging to comprehend if foreign investment flows grow or decrease. This could put the host country at danger financially and economically (Ganić, 2025; Maza and Hierro, 2025).

Nevertheless, the BRICS economies continue to experience a fluctuating FDI influx due to specific macroeconomics characteristics, especially economic growth, and exchange rate volatility. The impact of these determinants on foreign direct investment (FDI) inflows has been the subject of numerous research thus far, both nationally and internationally, but the empirical findings have been conflicting.

(Cicea and Marinescu, 2021; Sarker and Khan, 2020; Osei and Kim, 2020; Bilas, 2020; Dong and Fan, 2020; Nupehewa et al., 2022; Wang et al., 2022). While some research has shown a positive relationship between economic growth and foreign direct investment (FDI), implying that economic growth creates prerequisites for FDI in any economy, other research has found the opposite.Chowdhury and Wheeler (2008), there is a positive correlation between exchange rate volatility and foreign direct investment (FDI) inflows into host nations. On the contrary, alternative research proposes a detrimental or negligible effect of exchange rate volatility on the inflow of FDI (Havi, 2021; Akinlo and Gbenga Onatunji, 2021; Moraghen et al., 2021).

Foreign Direct Investment (FDI) influx is now a key component of sustainable development in emerging countries, rather than just a catalyst in the context of an increasingly integrated global economy. FDI is a vital source of outside funding for nations like South Africa, where local financial resources are sometimes insufficient to satisfy the scope and urgency of economic reform. It provides funding as well as a strategic means of promoting scientific advancements, industrial development, and competitive engagement in global value chains. FDI serves an additional function by supplying long-term capital that boosts productivity and economic efficiency in developing economies, where domestic capital markets are frequently shallow and unable to satisfy the private sector's investment needs. It can cut manufacturing costs and improve wage structures, which collectively help to enhance overall economic performance. FDI provides as a consistent and reliable source of external finance, contributing significantly to capital formation (Asongu et al., 2018). In a same vein, foreign direct investment (FDI) provides access to global markets, financial

capital, technological know-how, entrepreneurial potential, and managerial capabilities (Nguyen, 2022). For nations looking to industrialize, generate jobs, and combat poverty, these contributions are especially crucial. Since the early 1980s, Nigeria has gradually liberalized its investment regulations to draw in more foreign capital, acknowledging the strategic importance of FDI. Despite being a significant source of outside funding for Nigeria, foreign direct investment (FDI) has had little effect on the country's development. FDI inflows have not resulted in inclusive growth or widespread economic transformation, despite policy changes intended to improve the investment climate. The advantages of FDI are nevertheless limited by structural obstacles like poor infrastructure, inconsistent policies, and weak governance. Nigeria is not among the top five FDI recipients in Africa, despite its status as the continent's largest economy (UNCTAD, 2024). This study aims to determine whether there is a significant impact of foreign direct investment inflows on economic performance and to investigate the direction of causality that exists between FDI inflows and economic performance in Nigeria. This paradox highlights the need to critically examine the extent to which FDI influences Nigeria's economic performance and to identify the conditions under which its impact can be maximized. While earlier research has mostly used the ARDL approach to examine how FDI affects Nigeria's economic performance, Amade and Osinubi et al. (2009) study, which included data from 1985 to 2022 and major factors such FDI, trade openness, exchange rate, and inflation rate, stands out. By investigating and utilizing additional important variables, such as mobile cellular subscription and service trade openness, rather than the traditional Trade Openness (Export + Import / GDP), this study contributes to the body of literature by examining the effects of FDI on Nigeria's economic performance. Also, this study evaluated the impact of FDI on Economic performance for a different timeframe from 1980 to 2024, as contrasted to the previous study which was during the period of 1990 to 2023. Additionally, to the best of my knowledge, no study has used the recent data used in this study to empirically investigate the causal relationship between FDI inflows and economic performance in Nigeria. This study adds to the body of literature by using the Granger Causality Diagnostics to identify the type of causality evident in the model.

Literature Review

The effects of economic development and currency rate volatility on foreign direct investment (FDI) inflows have been the subject of several studies, both globally and between economies. Thus far, it has been acknowledged that FDI inflows into host economies are mostly dependent on economic development. However, due to differences in econometric methods, time periods, exchange rate volatility metrics, model misspecification, and the choice of countries for research, the findings about the relationship between growth and FDI are inconsistent (Akinlo and Gbenga Onatunji, 2021).

Among the 108 empirical studies that Iamsiraroj and Ulubaşoğlu (2015) reviewed, 43% reported a positive and significant impact of FDI on growth, 17% reported a significant negative impact, and 40% reported a statically insignificant effect. Additionally, it has been acknowledged that actual exchange rates and exchange rate volatility play a crucial role in promoting increased FDI input. However, there is still disagreement over the relationship between these macroeconomic factors. Exchange rate volatility has no discernible effect on FDI, Görg and Wakelin (2002). Broll and Wong (2006) and Asmae and Ahmed (2019), FDI inflow is positively impacted by exchange

rate volatility. Nasir et al. (2017), FDI inflow is mostly impacted by currency rate volatility in the short term, leading to uncertainty among international investors. Mosteut and Masih's (2017) research, there is no substantial correlation between the exchange rate and GDP, but there is a significant correlation between exchange rate volatility and foreign direct investment.

This suggests that overseas investors need not be concerned about currency volatility. Exchange rate fluctuations are more likely to be anticipated innovations that impact FDI inflow, according to Eregha's (2019) analysis of the impact of exchange rate fluctuations on FDI inflow in the West African Monetary Zone from 1980 to 2014. empirical knowledge of the connections between FDI, industrialization, and economic growth. Empirical research has long examined the connection between economic growth and foreign direct investment (FDI), yielding a variety of sometimes conflicting findings.

Many scholars contend that FDI promotes economic growth by bringing in capital, transferring technology, and generating employment, all of which can increase productivity and make host economies more competitive (Chizema, 2025). For example, FDI has greatly boosted growth in Africa, especially when it is accompanied by healthy financial markets that effectively distribute foreign money (Makalima et al., 2024). Key mediators that influence how well FDI translates into growth, such as labor force size, trade openness, and economic freedom, are further identified by cross-country analysis (Dalaseng et al., 2022).

For developing economies in particular, human capital plays a critical role in this dynamic, Rajab and Zouheir (2024), foreign direct investment (FDI) can facilitate the transfer of technology and the development of skills, but these advantages are contingent upon a nation's ability to absorb new technology. Early foreign direct investment (FDI) inflows boosted Vietnam's economy, but too much FDI has occasionally replaced domestic investment or created inefficiencies (Guo et al., 2024). According to sector-specific research, FDI typically increases productivity in export-oriented businesses, which is consistent with more general development objectives (Mabeta et al., 2025; Pecaric et al., 2021).

FDI, however, does not always result in favorable consequences. FDI has had detrimental or insignificant consequences in various low- and middle-income European nations, occasionally displacing native businesses or misallocating resources (Jusaj and Zogaj, 2024). Rao et al. (2023) noted that although foreign aid may discourage investment, FDI is still essential for long-term progress in Asia. In a similar vein, FDI was linked to lower unemployment in Pakistan, although its impacts on labor markets were not entirely consistent (Arslan and Zaman, 2014). Sectoral variation exacerbates the relationship between FDI and growth. Elheddad et al. (2021), some industries gain more from FDI than others. Hayat (2018), large investments in natural resources frequently result in diminishing returns, even though FDI generally fosters growth. Sirag et al. (2018) noted that the financial sector was more crucial in promoting growth in Sudan than foreign direct investment. These variations highlight how crucial domestic elements are in determining the impact of FDI, including institutional quality, sectoral makeup, and the policy environment (Fazaalloh, 2024). Industrialization is widely acknowledged as transformative, especially in developing economies, and is closely associated with economic growth. It increases employment,

promotes innovation, and reallocates resources to more productive industries. Particularly in economies moving away from agriculture, manufacturing has demonstrated a high link with growth (Aquilas et al., 2024; Pinto et al., 2025). Urbanization, which is frequently fueled by industrial expansion, creates centers for employment and innovation but can also worsen social and environmental problems (Jacobs et al., 2023; Yu et al., 2024).

METHODS

This study examines the relationship between imports, economic growth, exchange, urban population, financial development, and foreign direct investment (FDI) inflow in South Africa using secondary data from 1990 to 2024. The World Bank's World Development Indicator Database provided data for the variables. To accomplish the study's goals, descriptive statistics, bound testing, and Auto-Regressive Distributed Lag (ARDL) were the statistical methods used. Understanding the complete economic dynamics influencing FDI inflow in South Africa will also result from this.

FDIN = f(GDP,EXC, IMP, URB, FID) 1

FDIN = Foreign direct inflow

EXC = Exchange rate

GDP = Economic growth

FID = Financial development

IMP = Import

URB = Urban population

Expression (1) as shown above can be modelled below

$$FDIN_{.} = \emptyset_0 + \emptyset_1 \mathrm{EXC} + \emptyset_2 \mathrm{GDP} + \emptyset_3 \mathrm{IMP} + \emptyset_4 \mathrm{URB} + \emptyset_5 \mathrm{FID} + \mu \quad 2$$

$$\Delta FDIN_{.} = \emptyset_0 + \sum_{s=1}^{J} . \emptyset_{1s} \Delta FDIN_{.2t-n} + \sum_{s=1}^{J} . \emptyset_{2j} \Delta EXC_{.t-n} + \sum_{s=0}^{J} . \emptyset_{3j} \Delta GDP_{.t-n} + \sum_{s=0}^{J} . \emptyset_{4j} \Delta IMP_{.t-n} + \sum_{s=0}^{J} . \emptyset_{5s} \Delta URB_{.t-n} + \sum_{s=0}^{J} . \emptyset_{6s} \Delta FID_{.t-n} + \partial_1 FDIN_{2t-1} + \partial_2 EXC_{t-1} + \partial_3 GDP_{t-1} + \partial_4 IMP_{t-1} + \partial_5 URB_{t-1} + \partial_6 FID_{t-1} + \mu \quad 3$$

$$\Delta FDIN_{.} = \emptyset_0 + \sum_{s}^{J} . \emptyset_{1j} \Delta FDIN_{.2t-n} + \sum_{j}^{J} . \emptyset_{2j} \Delta EXC_{.t-n} + \sum_{j}^{J} . \emptyset_{3j} \Delta GDP_{.t-n} + \sum_{.}^{J} . \emptyset_{4m} \Delta IMP_{.t-n} + \sum_{m}^{J} . \emptyset_{5m} \Delta \mathrm{URB}_{.t-n} + \sum_{m}^{J} . \emptyset_{6m} \Delta \mathrm{FID}_{.t-n} + \partial_1 FDIN_{2_{t-1}} + \partial_2 EXC_{t-1} + \partial_3 GDP_{t-1} + \partial_4 IMP_{t-1} + \partial_5 URB_{t-1} + \partial_5 FID_{t-1} + \in ECT_{t-1} + \in_t$$

Results and Discussion

Table 1 shows the descriptive statistics for the study's variables that establish their statistical properties. Except for GDP, EXR, and FID, all the variables have relatively modest standard deviations. It was discovered that the differences between the ranges were not very large.

Table 1: Descriptive Statistics

	FDI	GDP	EXR	FID	URB	IMPORT
Mean	2.99E+09	81.47707	109.3213	131.597	40.55542	24.0428
Median	2.01E+09	81.88251	100.5035	131	39.943	24.60479
Maximum	8.84E+09	115.3179	273.0098	219.2	53.521	33.71985
Minimum	3.35	36.54339	49.77629	95.6	29.68	15.36621
Std. Dev.	2.62E+09	20.28347	48.82323	28.15204	7.558128	4.852851
Skewness	0.883935	-0.63519	1.8185	1.4342	0.188245	-0.12007
Kurtosis	2.60041	2.903027	6.328555	5.049594	1.701737	2.25508
Jarque-Bera	4.516922	2.231975	33.42219	17.08925	2.512444	0.842282
Probability	0.104511	0.327592	0	0.000195	0.284728	0.656298
Sum	9.87E+10	2688.743	3607.603	4342.7	1338.329	793.4126
Sum Sq. Dev.	2.20E+20	13165.41	76278.64	25361.19	1828.009	753.6051
Observations	33	33	33	33	33	33

A long-term correlation between the parameters is confirmed by the Cointegration test in Table 2, where the F statistics for the ARDL test to verify cointegration of model variables are 3.91, or >I(0) and I(1) at all alpha levels. This shows that over the 1990–2023 study period, FDIN is cointegrated with a subset of the variables in our model at the 5% significance level.

Table 2: Cointegration Test

Test Statistic	Value	K
F-statistic	3.919605	5
Critical Value Bounds		
Significance	I0 Bound	I1 Bound

10%	2.26	3.35
5%	2.62	3.79
2.5%	2.96	4.18
1%	3.41	4.68

Table 3 demonstrates that GDP is positive over the long term and the primary factor influencing foreign direct investment inflow into South Africa, asthe variable's coefficients are highly significant at the one percent significance level. The results are consistent with findings of Sanusi et al. (2019) who also reported positive and substantial effect of GDP on FDIN for Southern African countries.

Maintaining constant FDIN in the economy is responsible for the positive correlation between GDP and FDIN. To protect the economy from the decline of the current account balance of payments, the country's FDIN rises as GDP does. This is because maintaining economic growth is essential to the SA government's efforts to stimulate economic activity in the nation.

FDIN in SA has a positive and significant relationship with FID(-2). The positive impact results are consistent with research showing that an economy's FID considerably raises its FDIN (Coppin, 1994; Jena and Sethi, 2021).

The beneficial effects of FID on FDIN in relation to the South African economy may result from the nation's engagement in commodity trading with developed economies, which generates foreign exchange that travels through the financial system. The direct association of FID when government effectiveness is involved possibly suggests that if government is not fully committed to implementation of stated policies and there is inadequate service delivery (weak FID), then taking part in global investment inflow would not generate good outcomes.

The leadership of South Africa and potential investors are more concerned about the negative and insignificant exchange rates, which may be linked to conflicts and instability. Exchange rates are ineffective in building FDIN if a nation is politically unstable and has the potential for violence since prospective traders and investors would not want to do business with such a nation.

Table 3: Long run Estimate

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
FDIN(-1)	0.588028	0.099679	5.899203	0.000
GDP	5.39E+08	1.09E+08	4.931888	0.0001
EXR	-6.256855	3820132	-0.16378	0.8717
FID	-4008242	9979686	-0.40164	0.6927
FID(-1)	-4390437	12054716	-0.364209	0.7199
FID(-2)	3.394673	1.039724	-3.264974	0.0043
URB	9.44E+08	2.25E+08	4.201808	0.0005
IMPORT	2.16E+08	81332905	2.653278	0.0162
IMPORT(-1)	2.40E+08	89262530	2.686266	0.0151
IMPORT(-2)	-1.63E+08	94522006	-1.72333	0.102
IMPORT(-3)	3.71E+08	88876674	4.177326	0.0006
C	-2.21E+09	1.48E+09	-1.49404	0.1525
R-squared	0.92832	Mean dependent var		3.22E+09
Adjusted R-squared	0.884515	S.D. dependent var		2.64E+09
S.E. of regression	8.99E+08	Akaike info criterion		44.3602
Sum squared resid	1.45E+19	Schwarz criterion		44.92067
Log likelihood	-653.4029	Hannan-Quinn criter.		44.5395
F-statistic	21.19223	Durbin-Watson stat		2.468831
Prob(F-statistic)	0			

This result contradicts the conclusions of Khomo et al. (2018) and Sanusi et al. (2019), who found that foreign exchange reserves in Eswatini and Southern Africa are positively and significantly influenced by exchange rates, respectively. The persistent negative effect of exchange rates in the long run for the SA countries could be related to these countries hanging onto foreign exchange reserves for currency defense objectives. URB and IMPORT (-2) are positive in the long run outcomes and short-run, which suggests that in the short term, rising prices are significant to a certain degree in stimulating foreign direct investment.

Table 4: Short-run Dynamics

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GDP)	-5.4E+08	1.09E+08	0	0.000
D(EXR)	625685.5	3820132	0	0.000
D(FID)	-4.008242	9979686	0	0.000
D(FID(-1))	33946731	10397245	0	0.000
D(URB)	9.44E+08	2.25E+08	0	0.000
D(IMPORT)	2.16E+08	81332905	0	0.000
D(IMPORT(-1))	1.63E+08	94522006	0	0.000
D(IMPORT(-2))	-3.7E+08	88876674	0	0.000
CointEq(-1)	-0.41197	0.099679	-4.13298	0.0006

The error correction term, which is negative in all models and represents the long-term convergence of the variables, is the rate of adjustment along the temporal path of the variables to the long-run equilibrium. However, only for the two models that include regulatory quality and corruption control is it negative and statistically significant at the one percent significance level. The coefficients (-0.41) suggest that around 41% of this disequilibrium is corrected each year in the long run

Stability Test

The CUSUM and CUSUMSQ graphs (red lines) in Figures 1 and 2 were created to confirm parameter stability at the 5% significance level. Plots frequently show that the long-term coefficients are within five percentiles and are steady.

Figure 1: Cusum

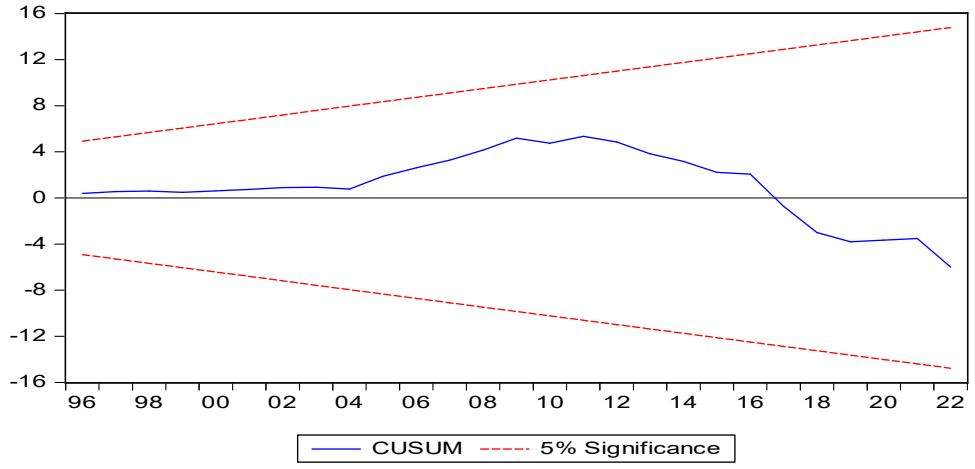
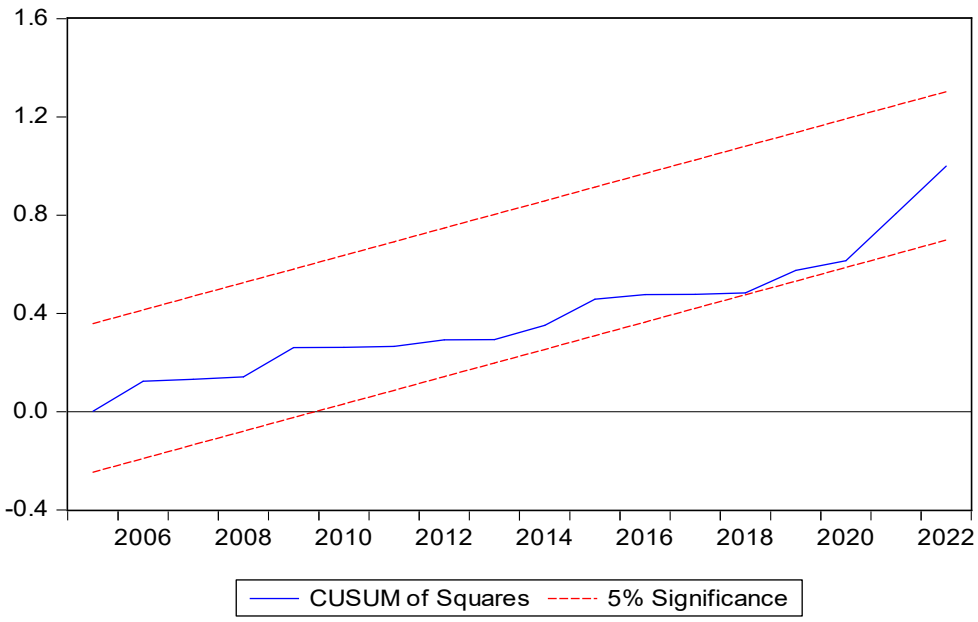


Figure 2: Cusum of Squares



A range of diagnostic tests performed on the ARDL model are also given in Tables 5 and 6. The Breusch-Godfrey and ARCH tests are used to assess the serial correlation of the model. The model exhibits no evidence of serial correlation because both tests yield P-values of 0.78, above the significance level of alpha=0.05. The homoskedasticity assumption is upheld when applying the Breusch-Godfrey Test for heteroskedasticity, which is shown by a P-value greater than 5%.

Table 5: Heteroskedasticity Test: ARCH

F-statistic	0.012523	Prob. F(1,27)	0.9117
Obs*R-squared	0.013445	Prob. Chi-Square(1)	0.9077

Table 6: Breusch-Godfrey Serial Correlation LM Test:

F-statistic	3.209755	Prob. F(2,16)	0.0673
Obs*R-squared	8.590077	Prob. Chi-Square(2)	0.0136

Conclusion and Recommendations

This study investigates how GDP and exchange rates affect foreign direct investment inflows into South Africa. The results confirm that, in terms of market expansion, new market creation, and favorable tax development, GDP has in fact been an effective driver of FDI inflows into South Africa. SA's strategic location, business-friendly policies, and economic openness have all contributed to its success in luring FDI inflows over the years. However, several other factors such as imports, urbanization, financial development, and particularly exchange rates interact with the process. As mentioned, the study demonstrates that imports have positively impacted FDI inflows; yet there are instabilities brought on by a variety of external economic shocks as well as domestic issues such a lack of suitable regulations or underprepared labor forces. For example, there has been an inverse relationship between FDIN and financial progress. There is, consequently, a desire for politicians to expand investment incentives, develop infrastructure, and reform regulatory frameworks to continue with the benefits accruing from FDI to maximum. In conclusion, GDP and exchange rates continue to be important factors in determining foreign direct investment (FDI) inflows into South Africa; nevertheless, the implementation of strategic policies and financial development in a stable economic environment is crucial for long-term success.

SA must enhance its investment climate through better infrastructure, regulatory clarity, and human resource development if it is to maintain the role of GDP in promoting growth in FDI inflows. More workers will be able to adopt foreign technology thanks to improvements in education and technical training. High-quality investment will be further drawn in by macroeconomic stability, low inflation, and fewer bureaucratic delays. Optimal long-term gain can be ensured by providing selective incentives to high-value businesses including manufacturing, green energy, and technology. Second, sustainable and equitable growth depends on sectoral FDI's appeal, especially to closely related industries like manufacturing and technology. Additionally, policies must make sure that foreign direct investment (FDI) enhances rather than replaces local investment. Investor trust will be guaranteed by an open and welcoming policy environment, which will enable SA to do more than just use FDI to drive economic expansion.

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