**Investing in sub-Saharan Africa: The Role of Internal Macroeconomic Factors and Institutional Quality in FDI Growth**

**Abstract:** The level of foreign direct investment drawn by developing countries like those in the sub-Saharan Africa is influenced by various internal macroeconomic factors and internal institutional indicators inherent in the specific country or region. However, FDI inflow to Sub-Sahara African (SSA) region are much lower when compared to countries in other regions of the world due to lack of investor confidence in Sub-Saharan Africa's economic prospects and investment climate characterized by institutional weakness and macroeconomic instability. Therefore, this study aimed at examining the effect of internal macroeconomic factors and internal institutional quality indicators on foreign direct investment in Sub-Sahara Africa. The study adopted ex-post facto research design. Top 10 recipients of FDI in Sub-Sahara Africa formed the sample of the study. Data were sourced from World Governance Indicators (WGI) and World Development Indicators (WDI) between 1996 and 2023. To address the problem of endogeneity in the dataset, the study employed dynamic panel autoregressive distributive lag (PARDL) model for the analysis. The results showed that trade openness, foreign reserve, exchange rate and regulatory quality have significant short- and long-run positive effects on FDI, while external debt, political stability and control of corruption have significant short- and long-run negative effects on FDI. The study concluded that internal macroeconomic and institutional factors affect FDI in sub-Saharan Africa. Therefore, the study recommended that investors should focus on investing in Sub-Saharan African countries with stable macroeconomic environments, strong institutional frameworks, and policies that promote trade openness, regulatory quality, and political stability, as these factors create the most favourable conditions for long-term investment growth.

**Keyword:** Macroeconomic Factors, Institutional Quality, Foreign Direct Investment, Sub-Sahara Africa, PARDL

**JEL Classification:** F21, O11, P33, P45

**1. Introduction**

Foreign direct investment (FDI) has long been recognized as a crucial driver of economic growth, particularly in developing regions like Sub-Saharan Africa. It serves as a source of capital inflows, technological transfer, employment creation, and integration into global value chains (Adelakun & Ogujiuba, 2023; Gebremariam & Ying, 2022). Developing economies recognize the importance of FDI in supplementing domestic resources as most developing countries are characterized by low level of domestic savings, which has impeded the much-needed investment to bolster business activities and ultimately economic growth and development. Thus, a desirable level of foreign investment that would ensure development sustainability can be attained when developing countries are able to mobilize foreign capital to bridge the savings-investment gap (Okara, 2023; Oke, Adejayan, Kolapo & Mokuolu, 2020).

FDIs are generally welcomed in most countries as they assist in the proper allocation of global resources and thereby increase the availability of capital and thus, bring about higher investment and economic growth (Yoon, Song & Lee, 2021). According to Nxumalo and Makoni (2021), when countries do not save enough money, they often rely on foreign capital to reduce their current account deficits and to pay for investment projects that help boost economic activity and growth.

Hence, FDI comes with the benefits of broader access to export markets, risk sharing with the rest of the world, external market discipline on macroeconomic policy, liquidity to meet domestic financing needs, deepening and improvement of financial sector (World Bank 2023; Collier, et al. 2019; World Bank, 2019). In addition, the inflows from FDI have been connected to price stability and capital formation (Al-matari, et al. 2021). Moreover, foreign participation comes with the benefits of improving market efficiency, allocating resources to productive ventures, as well as growing local markets by adding more money, thereby making it cheaper to obtain loans (Nxumalo & Makoni, 2021).

The level of foreign investment in a country is influenced by various internal (pull) macroeconomic factors like domestic interest rate, domestic income, exchange rate, net export, trade openness, foreign reserves, capital openness, financial development; as well as internal (pull) institutional quality indicators like political stability, corruption control and regulatory quality (Braiton & Odhiambo, 2022; Shamsub & Haque, 2021; Oke, et al., 2020). Attractive (pull) factors are factors or conditions a recipient country creates to attract foreign investors to invest their capital, such as a stable macroeconomic environment and institutional efficiency. Some of these factors are criteria which foreign investors used to assess the health of such economy and the potentials of its business environment (Gupta, et al., 2023; Adelakun & Ogujiuba, 2023; Juliannisa, 2020).

More importantly, foreign investors are interested in the growth potentials of an economy. If the economic outlook of a country looks good, investors are ready to commit their capital into such country for investment. Beyond that, the openness to international capital is highly considered before foreign investments are committed. It is expected that the more a country is open to foreign capital, the greater the inflow is to such country. The institutional framework shaping the economic environment is also considered a vital consideration for foreign capital flows because investors are quite sensitive to ensuring their investment is secured wherever they are being invested (Djokoto & Wongnaa, 2023).

However, the degree of FDI inflows varies from country to country. As such, developing countries do not attract much FDI as their developed counterparts. More specifically, FDI inflows to Sub-Sahara African (SSA) countries are much lower than inflows to countries in other regions of the world (Adelakun & Ogujiuba, 2023). According to World Bank (2023), Mauritius, South Africa, Egypt, Côte d’Ivoire, Nigeria, Rwanda, Kenya, Algeria, Tunisia, and Ghana are the top ten receivers of FDI inflows in Africa. Foreign direct investment (FDI) inflow to these African countries reached a record USD $83 billion in 2021 which is relatively substantial to engender significant growth. As a result, the Sub-Saharan Africa’s economic growth fell from 4.1% in 2021 to 3.6% in 2022 and it is forecasted to fall further to 3.1% in 2023. This slow growth might be because it is not strong enough to bring lasting prosperity or cut extreme poverty (World Bank 2023).

Extant studies revealed that when compared to Asia and America, the African continent as a whole attracted the least amount of foreign direct investment (Koçak & Barış-Tüzemen, 2022). Thus, looking back at the economic performance of developing countries, particularly those in the sub-Sahara African region, a consistent pattern of dwindling foreign investments can be observed. The primary cause of this deterioration includes weak institutional environment, disagreements between the government and some multinational firms, and macroeconomic instability. Challenges relating to uncertainties faced by investors in the SSA region led to the substantial drop (Ekechukwu, *et al.,* 2023; Shuaibu, *et al.,* 2020; Korle, *et al.,* 2020).

Concerns over rising inflation from rising basic needs costs and high interest rates have rendered the business environment less appealing for foreign capital inflow. Currency devaluation is common among emerging economies (Wijaya, et al., 2020; Juliannisa, 2020), many of which are in low-income brackets and restrictive economic policies further discourage foreign capital inflow (Chattopadhyay, et al., 2022). Additionally, developing countries struggle with problems like weaker currencies, slow investment, poor economic performance, and bad social conditions (World Bank 2023; Abdulrahman & Ajayi, 2022; Omorokunwa & Mbaka, 2021).

This decline is, therefore, disturbing not only because it represents a reduction in foreign capital but also because it suggests a lack of confidence in Sub-Saharan Africa's economic prospects and investment climate (Shuaibu, *et al.,* 2020). Hence, internal factors such as exchange rate, domestic interest rate, net export, trade openness, foreign reserves, institutional quality, and capital openness are usually within the policy reach of influence in a country. However, the generally weak macroeconomic and institutional outlooks in many sub-Sahara African countries, partly account for their limited FDI inflows.

Previous studies, including works by Mansur (2023), Mahfoudi and Louail (2023), Kazeem, Yu and Abeeb (2023), Evans et al. (2022), Mazadu et al. (2021), predominantly focused on the effect of selected macroeconomic factors on FDI inflow, largely overlooking the role of institutional quality indicators. Other studies, such as Nxumalo and Makoni (2021); Shamsub and Haque (2021) focused on institutional quality, neglecting the effect of macroeconomic factors.

While Alshubiri (2022) focused on both macroeconomic factors and institutional quality but fell short of using only political stability out of six institutional quality indicators given by World Governance Indicators (WGI). These limitations introduced potential bias relating to variable omission bias in the findings of these studies. Consequently, there is need to address these gaps. In an attempt to address the above issues, this study examines the effect of the internal factors on FDI in Sub-Saharan Africa, with a focus on the effect of macroeconomic factors and institutional quality on FDI inflow in the SSA region.

**2. Literature Review**

**2.1 Foreign Direct Investment**

Foreign direct investment (FDI) is a long-term investment made directly by foreign investors in a domestic business sector. Investment in this form is a relatively stable investment in the long term. FDI represents foreign flow of capital in which companies from a country establish or expand operations or business networks in other countries. The inflow of direct foreign capital shows the confidence of foreign investors to carry out their economic activities, thereby encouraging capital inflow (Gebremariam & Ying, 2022).

FDI, often measured as the ratio of net inflow of FDI to GDP, is an important driver of development in countries with open and strong financial systems. Nonetheless, its benefits do not reach all people, sectors, and countries equally. To bring more FDI to developing countries and get the most out of it, good national policies and best practices are needed. Host countries must make clear and strong investment policies and have the right people and systems to carry them out (Gupta, et al., 2023; Adelakun & Ogujiuba, 2023). Developing economies, emerging countries, and economies in transition are increasingly seeing FDI as a source of economic development, modernization, income growth, and job creation. To attract direct investment, countries have liberalized their FDI rules and adopted various initiatives (Wijaya *et al.*, 2020).

**2.2 Internal Factors of Foreign Direct Investment**

Pull factors are the internal and country-specific economic conditions that attract foreign investment into a country. They show how appealing a country is for investors by highlighting factors like economic stability and financial health, which help investors decide where to invest (Braiton & Odhiambo, 2022; Shamsub & Haque, 2021). These factors include open trade policies, interest rates, strong economic growth potential, financial market reforms, low inflation, and effective management of national debt; as well as internal (pull) institutional quality indicators like political stability, corruption control and regulatory quality (Braiton & Odhiambo, 2022; Shamsub & Haque, 2021; Oke, et al., 2020).

Trade openness represents the degree to which a country transacts business with the global economies. Trade openness refers to the extent to which a country engages in international trade. Greater trade openness can attract foreign capital, increase competition, and enhance the efficiency of financial institutions by exposing them to international best practices. It is measured by the share of international trade (i.e. both imports and exports) in its GDP (Mahfoudi & Louail, 2023; Tsaurai, 2022).

Foreign reserves refer to the assets held by a country's central bank or monetary authority that are primarily composed of foreign currencies. These reserves are used to support the country's currency value, ensure stability in the foreign exchange market, and facilitate international trade and payments (Mazadu, et al., 2021). The **exchange rate** is the value at which one currency can be exchanged for another. It represents the price of one country’s currency in terms of another currency. Exchange rate determines the relative prices of domestic and imported commodities and the extent of the external sector's participation in international trade. Exchange rates can fluctuate based on various economic factors, such as inflation, interest rates, trade balances, political stability, and differences in economic performance between countries (Wijaya, et al., 2020).

Inflation rate is the sustained increase in prices of goods and services in an economy over time, necessitating more money to purchase the same goods. The primary threat from inflation is that it erodes the purchasing power of currency, discourages investment, reduces the value of savings, and leads to a fall in real wages. High inflation particularly affects lower-income countries negatively (Oke, et al., 2020). External debt refers to the portion of a country's debt that is borrowed from foreign lenders, including commercial banks, governments, or international financial institutions. It represents the financial obligations of a country to foreign creditors and is typically denominated in foreign currencies. The accumulation of external debt can have significant implications for a country's economy, including affecting its creditworthiness, fiscal stability, and sovereignty (Evans, et al., 2022).

Likewise, literature has shown that indicators of institutional quality such as political stability, control of corruption and regulatory quality reflect the potentials of business environment and could possibly determine the flow of FDI into any country (Braiton & Odhiambo, 2022; Shamsub & Haque, 2021). Regulatory quality measures public opinion of the government's capacity to establish and implement solid rules and regulations that support private sector development. Cutting red tape for businesses, making policy more evidence-based, boosting market functioning, and enhancing the public's understanding of the law are all examples of ways to make regulatory systems more efficient (World Bank, 2019).

Political stability and absence of violence measures perceptions of the likelihood of political instability and/or politically-motivated violence, including terrorism. The likelihood that the government would be destabilized or overthrown through unconstitutional or violent means, such as politically motivated violence and terrorism, is captured by political stability and the lack of violence (Alshubiri, 2022; World Bank, 2019). Control of corruption means how well a country can stop the abuse of public power for private gain, whether through minor acts or by powerful individuals influencing the system (World Bank, 2021). Corrupt practices involve the misuse of public power or resources for personal gain. This can happen on a small or large scale and includes situations where influential people or groups manipulate government decisions for their own benefit (Sabir, et al., 2019; World Bank, 2019).

**2.3 Theoretical Review**

This study was underpinned by two important theories, namely: the flow theory and the new institutional economics theory. The flow theory explains the movement of foreign direct investment (FDI) between countries based on differences in macroeconomic, institutional, and strategic factors. This theory is popularized by the works of Li in 2018. According to the theory, macroeconomic factors are the most important determinant of international capital flows. Macroeconomic factors enhance the outflows of capital to foreign countries, which will continue if the macroeconomic factors remain stable in comparison to other countries. To explain the flow theory, Li (2018) presented a model.

Trade balance:$T=T[Y^{-}, e/P^{+}]$ (2.1)

where: T represents the trade balance; Y represents the total output; e represents the macroeconomic factors; and p represents the price level.

Capital flow:$F=F(i^{+},i^{\*-})$ (2.2)

where:F represents capital; i and i\* represents domestic and foreign macroeconomic factors.

Balance of payments: $∆R=T+F=T[Y^{-}, e/P^{+}]+ F(i^{+},i^{\*-})$ (2.3)

The stability of macroeconomic factors attracts foreign capital inflows, when output and price levels are known, thereby improving the balance of payments in this model. Mundell and Fleming went on to say that macroeconomic factors determine foreign capital flows in the context of flow theory. Mundell (1960) believed that relatively stable macroeconomic factors would increase net capital inflows or decrease net capital outflows; Fleming (1962) adds that in a floating exchange rate system, international capital flows are more sensitive to interest rates than in a fixed exchange rate system.

The new institutional economics (NIE) theory provides a framework for understanding how institutions, including legal systems and governance structures, addresses the dynamics of foreign capital inflow to influence economic outcomes. Institutions serve as the framework for societal interactions consisting of the rules that shape human behavior across political, social, and economic realms. When applied to the analysis of foreign capital inflow, NIE highlights how institutional factors influence the decisions of foreign investors and the functioning of capital markets. This theory, proposed by Douglass North in 1990, emphasized the importance of strong institutional frameworks in attracting foreign capital inflow. strong institutional frameworks reduce the risk of expropriation and asset seizure, providing investors with confidence in their investments.

Investors are more willing to commit capital to environments where contracts are enforceable and legal disputes can be resolved fairly and efficiently, thereby encouraging long-term investment. Hence, effective legal systems and institutions that uphold the rule of law and enforce contracts enhance the attractiveness (pull factors) of a region to foreign investors. Moreover, transparent and accountable governance structures foster trust and confidence among foreign investors. In other words, institutions that promote transparency, accountability, and anti-corruption measures reduce uncertainty and mitigate risks associated with investing in a foreign market. However, weak legal institutions increase transaction costs and investment risks, thereby reducing foreign capital inflow.

Institutional factors such as bureaucratic red tape, corruption, political instability, regulatory uncertainty, corruption and inefficient legal systems can increase transaction costs for investors and undermine investor confidence and deter foreign capital inflow discouraging foreign investment.

**2.4 Empirical Review**

Sabir, Rafique, and Abbas (2019) studied how institutional quality affects foreign direct investment (FDI) in countries of different income levels from 1996 to 2016 using panel data and the system GMM method. They found that better institutions generally increase FDI, but this effect is stronger in richer countries due to lower corruption, better governance, and stronger legal and political systems.

ElShazly (2020) studied the key factors that attracted foreign direct investment (FDI) to the top 20 developing countries over the past 30 years. The study also looked at whether foreign investors were more drawn to special investment incentives or to the overall economic conditions of a country. Using panel data and a fixed effects model, the results showed that the general economic environment of a country matters more for attracting FDI, while tax breaks and tariff reductions were not very important in attracting foreign investors.

Wijaya et al. (2020) studied how economic factors and infrastructure spending affected FDI from 1981 to 2018. Using data analysis methods, they found that GDP, inflation, debt, interest and exchange rates, and infrastructure spending influence FDI in both the short and long run.

Adekunle (2020) examined what factors affect foreign direct investment (FDI) in Nigeria between 1986 and 2018, looking at both short-term and long-term impacts. The study used ARDL and Granger Causality techniques. The results showed that FDI is linked to its influencing factors over the long run. It found that government spending and inflation reduce FDI both in the short and long term, while the exchange rate has a negative impact in the long term. In contrast, higher GDP and greater trade openness encourage FDI in both the short and long term.

Cookey and Eniekezimene (2020) studied the factors influencing foreign direct investment (FDI) in Nigeria from 1981 to 2019, using the Autoregressive Distributed Lag (ARDL) method. They found that both the exchange rate and trade openness have a positive impact on FDI when these factors increase, FDI also increases. Specifically, a 1% rise in FDI corresponds to a 0.18% increase in the exchange rate and a 5% increase in trade openness. On the other hand, inflation and interest rates negatively affect FDI, meaning that when these factors increase, FDI tends to decrease.

Shamsub and Haque (2021) studied the key governance factors influencing capital inflows into seven closely linked Asian economies from 1997 to 2017, using a Seemingly Unrelated Regression (SUR) model. They found that certain governance indicators, along with traditional economic factors like global liquidity, global GDP growth, stock market returns, and GDP growth, influence capital inflows. The study identified two key sets of governance indicators, one affecting portfolio investment and the other affecting FDI. These governance factors work alongside traditional economic drivers to attract both types of investment.

Nxumalo and Makoni (2021) studied the long-term connections and cause-effect relationships between foreign direct investment (FDI), foreign portfolio investment (FPI), and the quality of institutions in 12 emerging market economies from 2007 to 2017, using panel autoregressive distributed lag (ARDL) model and the error correction model (ECM). The results showed that there were strong long-term links between institutional quality and foreign capital inflows (FDI and FPI). Additionally, they found that FDI and FPI influenced institutional quality in a one-way direction over time. The study also suggested that the relationship between FDI and FPI in the long term is influenced by the institutional environment of the host country.

Al-matari, Mgamma, Senan and Alhebri (2021) looked at what affects FDI inflows in the Gulf Cooperation Council (GCC) countries between 1995 and 2018. They used GLS regression for their study. The results showed that FDI was positively related to inflation, trade ratio, GDP, gross savings, and net foreign assets. However, they also found that international tourism had a negative effect on FDI.

Mazadu, Usman and Umar (2021) looked at the factors that affect FDI inflows in Nigeria from 1981 to 2018 using the ARDL method. They found a long-term connection between the factors studied. The results showed that foreign reserves, inflation, infrastructure, and population growth positively influence FDI in both the short and long term. The study also indicated that any imbalance in the model is corrected at a rate of 97.8% per year. Additionally, diagnostic tests showed that the model's coefficients remain stable, as the CUSUM and CUSUMSQ tests remained within the 5% critical threshold.

Karahan and Bayir (2022) studied how expansionary monetary policies before and during COVID-19 affected FDI in emerging countries. Using data from 2008 to 2021 and the ARDL model, they found that higher global stock market indexes and lower interest rates helped increase FDI in countries like Brazil, China, Turkey, and Poland.

Tsaurai (2022) studied what affects FDI in BRICS countries from 1994 to 2020 using various analysis methods. The study found that economic growth, exchange rates, and trade openness increased FDI, while a developed financial sector, high inflation, and human capital development reduced it.

Alshubiri (2022) examined how real interest rates, exchange rates, and political stability affect FDI inflows in G7 and Gulf Cooperation Council (GCC) countries from 2005 to 2019. Using specific statistical methods, the study found that real interest rates had a strong positive long-term effect on FDI inflows in both groups of countries. However, in the G7 countries, exchange rates negatively impacted FDI inflows over time, while this effect was weaker in the GCC countries. Political stability also had a strong negative impact on FDI in the GCC countries, but a weaker effect in the G7 countries.

Evans, Kariuki, and Wafula (2022) looked at how fiscal policies influenced foreign direct investment (FDI) in Kenya from 1998 to 2017, using regression analysis. They found that government spending on infrastructure was positively and significantly linked to FDI. The study also showed that both external and domestic debt negatively affected FDI. Furthermore, tax revenues were positively and significantly related to FDI.

Sabado, Garcia, Formentera, and Arcebal (2023) studied what influences FDI in the Philippines from 1970 to 2020 using OLS regression. They found that the real exchange rate significantly affects FDI inflows, supporting the monetary analysis theory that links monetary factors to capital movement. Mahfoudi and Louail (2023) studied what drives FDI in Algeria from 1990 to 2017 using a multiple regression model. They found that GDP and trade openness had a strong positive effect, while inflation and trade openness also showed a strong negative effect. Population growth and GDP per capita had a positive but weak impact.

Mansur (2023) looked into the factors that influence China's foreign direct investment in Indonesia from 2000 to 2016, using multiple linear regression. The study found that wage levels and inflation rates significantly affect China's investment in Indonesia. However, economic growth, exchange rates, and exports do not have an impact on this investment. The results of the simultaneous test showed that all the factors studied have a significant effect.

Kazeem, Yu and Abeeb (2023) set out to detect which elements act as a key driver of high FDI inflows in Nigeria from 1980 to 2022 using OLS. Findings from the study show that the size of the Nigerian market and the level of their economy openness are major determinants of FDI inflows. The result further suggests that high inflation rate is a hindrance to FDI.

Adelakun and Ogujiuba (2023) compared the factors influencing the top ten African countries that receive foreign direct investment (FDI). Their goal was to examine both short- and long-term factors affecting FDI, using the ARDL bound test to check for a long-term connection between these factors. The results showed that these factors are linked in the long run. The study found that problems like poor infrastructure, low domestic savings, and inflation prevent FDI from flowing into these countries. It also highlighted poor governance as a factor that stops the growth of strong institutions and the flow of investment.

Abdi et al. (2024) studied how stable economic conditions and quality institutions affect the ability of 24 African countries to attract foreign investment between 2004 and 2022. Using advanced statistical methods, they found that in the long run, higher income per person (GDP per capita) and more domestic investment help bring in more foreign direct investment (FDI). Strong institutions also play an important role in attracting FDI. On the other hand, a weaker currency encourages more FDI, while too much inflation and too much openness to international trade reduce FDI over time.

Kumar et al. (2024) studied how economic and institutional factors affect foreign direct investment (FDI) in six South Asian countries, Pakistan, India, Bangladesh, Nepal, Sri Lanka, and Bhutan, between 2000 and 2020. Using panel data methods like fixed effects and two-stage least squares, they looked at how GDP, financial development, inflation, infrastructure, infrastructure, government effectiveness, political stability and regulatory quality affect FDI. The results showed that most of these factors have a strong impact on FDI, except government effectiveness.

**3. Methodology**

**Model Specification**

The panel autoregressive distributive lag (PARDL) model used for this study was adapted from the study of Mazadu, Usman and Umar (2021). The model is specified as follows:

$FDI=β\_{0}+β\_{1}FDI\_{t-1}+β\_{2}FD\_{t-1}+β\_{3}FRESE\_{t-1}+β\_{4}INF\_{t-1}+β\_{5}INFRA\_{t-1}+β\_{6}POP\_{t-1}+ℇ$ (1)

Where FDI = foreign direct investment; FD = financial development; FRESE = foreign exchange reserve; INF = inflation rate; INFRA = infrastructure; POG = Population growth.

However, modifications were made to the model to incorporate internal macroeconomic factors and internal institutional quality indicators not captured by Mazadu et al. (2021). Internal macroeconomic factors include trade openness, foreign reserves, exchange rate, external debt; and internal institutional quality indicators include regulatory quality, political stability and corruption control. The modifications were made to capture the influence of internal macroeconomic factors and institutional quality indicators that were overlooked by Mazadu et al. (2021), ensuring the model aligns with the unique economic and institutional dynamics of the study region.

Thus, the functional model for this study is specified as:

FDI = *f*(TO, FR, ER, ED, RQ, PS, CC) (2)

The model is further stated in econometric form as:

$∆FDI\_{it}=α+\sum\_{j=1}^{p}δ\_{j}^{}∆FDI\_{it-1}+\sum\_{j=0}^{p}β\_{j}^{}∆TO\_{it-1}+\sum\_{j=0}^{p}β\_{j}^{}∆FR\_{it-1}+\sum\_{j=0}^{p}β\_{j}^{}∆ER\_{it-1}+\sum\_{j=0}^{p}β\_{j}^{}∆ED\_{it-1}+\sum\_{j=0}^{p}β\_{j}^{}∆RQ\_{it-1}+\sum\_{j=0}^{p}β\_{j}^{}∆PS\_{it-1}+\sum\_{j=0}^{p}β\_{j}^{}∆CC\_{it-1}+δ\_{j}^{}TO\_{it-1}+β\_{j}^{}FR\_{it-1}+β\_{j}^{}ER\_{it-1}+β\_{j}^{}ED\_{it-1}+β\_{j}^{}RQ\_{it-1}+β\_{j}^{}PS\_{it-1}+β\_{j}^{}CC\_{it-1}+ϵ\_{it}$ (3)

Where; FDI = foreign direct investment; TO = trade openness; FR = foreign reserve; ER = exchange rate; ED = external debt; RQ = regulatory quality; PS = political stability; CC = control of corruption; µit = error term.

The research design employed in this study is ex post facto research design. The population of this study comprises 49 Sub-Sahara African countries while the study samples consist of top 10 receivers of foreign direct investments in Africa. These include Algeria, Egypt, Côte d’Ivoire, Ghana, Kenya, Mauritius, Nigeria, Rwanda, South Africa, and Tunisia (World Bank, 2021).

**4. Results and Discussion**

**Summary Statistics Table**

**Table 1: Descriptive Statistics**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Mean | Std. Dev. | Min | Max |
| Foreign direct investment | 4.429 | 9.308 | 161.8 | -18.91 |
| Trade openness | 78.62 | 52.84 | 376.2 | 0.784 |
| Foreign reserve | 0.139 | 0.128 | 1.240 | 0.0003 |
| Exchange rate | 602.7 | 1196.4 | 10439.4 | 0.128 |
| External debt | 2158.4 | 3074.2 | 20512.9 | 187.5 |
| Control of corruption | -0.4551 | 0.7012 | -1.8400 | 1.150 |
| Regulatory quality | -0.3887 | 0.6303 | -2.1000 | 1.2000 |
| Political stability | -0.4435 | 0.7035 | -1.9200 | 1.0200 |

Table 1 presents the summary statistics results. The results showed that FDI, alongside internal macroeconomic factors like foreign reserve, exchange rate, trade openness and external debt have positive mean values, implying that, on average, these variables have contributed positively within the period under review. On the other hand, internal institutional quality indicators like political stability, control of corruption and regulatory quality have negative mean values, indicating that these factors have generally performed poorly or had adverse effects during the same period. At a glance, the summary statistics highlight the challenges posed by weak institutional frameworks despite the positive contributions of macroeconomic factors.

**Panel Stationarity Test**

Determining the order of integration is crucial when choosing an estimation technique. In order to identify the order of integration and ascertain whether the variables in this study are stationary or nonstationary, the Augmented Dickey-Fuller (ADF) unit root tests was utilized.

**Table 2: Panel Unit-Root Test for Study**

|  |  |
| --- | --- |
| Variables | Augmented Dickey-Fuller (ADF) Unit Root Test |
| t-stat | p-value | t-stat | p-value |
| Foreign direct investment | -3.5138 | 0.0002 | - | - |
| Trade openness | -1.9999 | 0.0228 | - | - |
| Foreign reserve | -5.8061 | 0.0000 | - | - |
| Exchange rate | -4.5672 | 0.0043 | **-** | **-** |
| External debt  | - | - | -9.3752 | 0.0000 |
| Control of corruption | -2.9905 | 0.0019 | - | - |
| Regulatory quality | - | - | -8.3227 | 0.0000 |
| Political stability | -11.6679 | 0.0000 | - | - |

ADF unit root test was employed and shown in Table 2. The results indicated that foreign direct investment, trade openness, foreign reserve, exchange rate, control of corruption and political stability were stationary at level I(0). While external debt and regulatory quality were stationary at first difference I(1). By this result, the null hypothesis which states that each of the variables is not stationary is hereby rejected, while the alternative hypothesis is accepted.

**Panel Autoregressive Distributive Lag (PARDL) Bounds Testing Approach**

Based on the unit root test results, the ARDL bounds testing method was used. This method works when the variables are I(0), I(1), or a mix, but not I(2). It checks for a long-run relationship using the F-statistic. If the F-statistic is above the upper bound, there is a long-run relationship. If it is below the lower bound, there is no long-run relationship. If it falls between the bounds, the result is unclear.

**Table 3: ARDL Bound Test Results**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test Statistic | Value | Significance if. | Lower BoundI(0) | Upper BoundI(1) | Decision |
|  | Long-run relationship exists |
| F-Statistic | 5.8956 | 10% | 2.26 | 3.46 |
| k | 5 | 5% | 2.62 | 3.83 |
|  |  | 2.5% | 2.96 | 4.33 |
|  |  | 1% | 3.41 | 5.01 |
|  | Note: H0 = No long-run relationship |

The results in Table 3 show that the F-statistic value of 5.8956 is higher than the upper bound of 5.01 at the 1% significance level. This means there is a long-run relationship among the variables. The null hypothesis of no long-run relationship is rejected, and the study moves on to estimate both short-run and long-run effects using the ARDL model.

**Table 4: ARDL Model Result**

|  |
| --- |
| Long-run Estimates |
| Variable | Coefficient | t-stat | p-value |
| TO | 2.3682 | 0.777357 | 0.0277 |
| FR | 5.7317 | -0.0426 | 0.0360 |
| ER | -0.01345 | -1.3430 | 0.0105 |
| ED | -0.00662 | 1.5989 | 0.0002 |
| RQ | 0.04319 | 2.5242 | 0.0036 |
| PS | -0.10035 | 2.1841 | 0.0060 |
| CC | -0.01054 | 0.1698 | 0.0452 |
| ECT(-1)\* | -0.3946 | -6.6586 | 0.0000 |
| Short-run Estimates |
| C | -0.1517 | 2.1861 | 0.0298 |
| lnFDI(-1) | 0.0846 | 6.8834 | 0.0000 |
| TO | 0.1104 | 2.7224 | 0.0073 |
| FR | 0.2845 | -2.9639 | 0.0062 |
| FR (-1) | -0.0043 | 2.3926 | 0.0175 |
| ER | -0.0943 | -2.6858 | 0.0093 |
| ED | -0.5460 | 1.9478 | 0.0455 |
| ED (-1) | 1.3428 | 1.6866 | 0.0830 |
| RQ | 0.9161 | 16.090  | 0.0000 |
| RQ (-1) | 0.1788 | 2.4334  | 0.0006  |
| PS | -0.5184 | 4.6756 | 0.0000 |
| CC | -0.02122 | -2.4228 | 0.0162 |
| CC (-1) | 0.02291 | 1.9748 | 0.0495 |
|  | R-squared | 0.8692 |  |
|  | F-statistic | 45.31 |  |
|  | Prob(F-statistic) | 0.0000 |  |
|  | Durbin-Watson stat | 2.0031 |  |

Table 4 presented the results of the ARDL model.

**Trade openness and FDI**

The result showed that trade openness has significant positive effect on FDI both in the short- and long-run. This implies that a country with greater trade openness immediately becomes attractive to foreign investors because it signals reduced trade barriers (e.g., lower tariffs, fewer import/export restrictions). High degree of trade openness signals fewer trade barriers, encouraging foreign investors to enter the market quickly to take advantage of trade opportunities. Such that foreign investors quickly respond to trade-friendly policies by reallocating resources to take advantage of new opportunities.

In the long run, continued trade openness fosters sustained confidence in the economic environment, encouraging long-term commitments from foreign investors. This could lead to investments in large-scale, capital-intensive projects that require predictable policies over an extended period. Similarly, it facilitates a country's integration into global markets, making it a strategic location for multinational corporations seeking regional or global supply chain integration.

This finding is consistent with the findings of Kazeem, Yu and Abeeb (2023), Tsaurai (2022), Cookey and Eniekezimene (2020) which established in their various studies that trade openness has significant positive effect on FDI among BRICS economies. In addition, this finding aligns with the flow theory which stated that open economies often exhibit favourable investment climates, reducing barriers to international trade and facilitating the free movement of goods, services, and capital across borders. However, the finding contradicts that of Mahfoudi and Louail (2023) which found negative effect.

**Foreign reserve and FDI**

The result showed that foreign reserve has significant positive effect on FDI both in the short- and long-run. However, foreign reserve lagged by one year has significant negative effect on FDI in the long-run. This suggests that the country has sufficient liquidity to cover imports, repay external debts, and intervene in currency markets, making it an attractive destination for FDI. In the short run, higher foreign reserves reassure foreign investors about a country’s ability to manage external shocks, such as exchange rate volatility or balance of payment deficits.

In the long term, sustained high foreign reserves reflect a country’s economic resilience and prudent fiscal and monetary management. However, the negative effect of foreign reserves lagged by one year suggests that maintaining excessively high reserves over time may have unintended consequences that deter FDI. Hence, persistently high reserves may be interpreted as a lack of strategic deployment of resources, signaling inefficiency or overly conservative fiscal policies. Large reserves might indicate underutilization of funds, where potential investments in productive sectors are hoarded instead of being channeled into growth-enhancing activities.

This finding is consistent with the findings of Mazadu, Usman and Umar (2021) which established in their study that foreign reserves have significant positive effect on FDI. Moreover, this finding aligns with the flow theory which stated that sufficient foreign reserves enable a country to stabilize its currency during periods of volatility. This reduces the risks associated with exchange rate fluctuations, which is a key concern for foreign investors.

**Exchange rate and FDI**

The result showed that exchange rate has significant negative effect on FDI both in the short- and long-run. This implies that that fluctuations or unfavourable levels of exchange rates can deter foreign direct investment. Exchange rate instability or sharp depreciation in the short term creates uncertainty for foreign investors, as it affects the value of their investments and potential profits when converted back to their home currency. High volatility increases the cost of hedging against exchange rate risks, making investments less attractive. Therefore, for investors reliant on imported inputs, a weaker local currency increases costs, reducing the feasibility of operations.

In the long term, persistent exchange rate depreciation over time diminishes the long-term value of FDI returns, making countries with unstable currencies less attractive to investors. Such that investors may fear further devaluation, which could wipe out their gains or lead to higher operational costs. Hence, sustained weak or unstable exchange rate signals broader economic issues, such as poor fiscal management, inflationary pressures, or low foreign reserve levels, discouraging long-term commitments.

This finding is consistent with the findings of Alshubiri (2022) and Adekunle (2020) which established in their various studies that exchange rate has significant negative effect on FDI. In addition, this finding aligns with the flow theory’s emphasis that FDI is sensitive to changes in exchange rates because these changes directly affect the cost of operations and the repatriation of profits. A depreciating or highly volatile domestic currency can lead to increased costs for importing inputs and raw materials; reduced value of profits when converted back into the investor’s home currency; and heightened uncertainty about future exchange rate movements, which raises the risk premium for investing in the host country. However, the finding contradicts that of Tsaurai (2022) and Cookey and Eniekezimene (2020) which found positive effect while Mansur (2023) found no effect.

**External debt and FDI**

The result showed that external debt has significant negative effect on FDI both in the short- and long-run. However, external debt lagged by one year has a weak significant positive effect on FDI in the long-run at 10% level. This suggests that high level of external debt raises concerns among foreign investors about a country's financial health and repayment capacity. This can deter short-term FDI inflows as investors perceive greater risk. Servicing external debt often diverts public funds from infrastructure development or economic programs that could attract foreign investors.

In the long run, excessive external debt can crowd out private investments, including FDI, as governments prioritize debt repayment over economic growth initiatives. High external debt may limit a government's ability to implement pro-investment policies, as fiscal resources are tied up in debt servicing. As a consequence, persistent external debt undermines macroeconomic stability, often leading to currency depreciation, inflation, or austerity measures that discourage long-term foreign investments. However, the weak positive effect suggests that if external debt is efficiently utilized for productive purposes (e.g., infrastructure, industrialization), it may attract FDI in the long run as the economic environment becomes more favourable. Such that the benefits of debt-financed investments, such as improved infrastructure or enhanced business environments, are realized with a delay, thereby fostering future FDI.

This finding is consistent with the findings of Evans, Kariuki and Wafula (2022) which established in their study that external debt has significant negative effect on FDI. In addition, this finding aligns with the flow theory which posit that high external debt levels may result in governments allocating resources toward debt servicing rather than infrastructure or economic development. This reduces the opportunities for productive investments, making the country less attractive to foreign investors.

**Regulatory quality and FDI**

The result showed that regulatory quality has significant positive effect on FDI both in the short- and long-run. Moreover, regulatory quality lagged by one year has significant positive effect on FDI in the long-run. This suggests that strong regulatory quality signals to foreign investors that a country has a well-functioning legal and institutional framework that ensures fair competition, protects property rights, and facilitates business operations. Effective regulations simplify the process of starting and running businesses, which attracts FDI as it lowers operational costs and administrative barriers. This boosts investor confidence and encourages immediate investment inflows.

In the long run, consistently strong regulatory quality creates a stable and predictable environment that supports long-term investment strategies. This includes factors such as robust contract enforcement, anti-corruption measures, and transparency, which are critical for long-term investment decisions. High regulatory standards help attract not just more FDI, but also higher-quality FDI, such as those in sectors requiring substantial capital, technology transfer, and skilled labour. This fosters overall economic growth and development. In addition, investors often make decisions based on long-term assessments of the business environment. The positive effect of lagged regulatory quality implies that the reputation and credibility gained from consistent regulatory reforms can attract FDI over time as investors become more confident in the country’s economic stability and growth prospects.

This finding is consistent with the findings of Sabir, Rafique and Abbas (2019) which established in their study that regulatory quality has significant positive effect on FDI; while Nxumalo and Makoni (2021) confirmed unidirectional causality from FDI to institutional quality such as regulatory quality in the long run. In addition, this finding aligns with the new institutional economics theory which stated that countries with high regulatory quality offer clear, predictable, and efficient regulations that help reduce business risks. High regulatory quality ensures that foreign investors can operate in a stable environment with minimal bureaucratic red tape and fewer arbitrary decisions. This creates a more attractive environment for foreign investors; reduces transaction costs and makes investing more appealing, supporting the positive effect of regulatory quality on FDI.

**Political stability and FDI**

The result showed that political stability has significant negative effect on FDI both in the short- and long-run. This suggests that political instability increases the likelihood of disruptions such as strikes, protests, or changes in government policy, which can threaten business continuity and profitability. Political instability, characterized by frequent changes in government, civil unrest, or conflicts, creates an unpredictable environment for businesses. Investors are less likely to commit capital in regions where they cannot foresee long-term stability.

In the long run, persistent political instability erodes investor trust, as it signals weak institutions and governance structures. This leads to a perception of heightened risk and diminishes a country’s attractiveness as an investment destination. Such that existing investors may pull out or scale back operations in response to prolonged political instability, exacerbating the decline in FDI inflows.

This finding is consistent with the findings of Alshubiri (2022) which established in his study that political stability has significant negative effect on FDI; while Nxumalo and Makoni (2021) confirmed unidirectional causality from FDI to institutional quality such as political stability in the long run. Moreover, this finding aligns with the new institutional economics theory which stated that politically unstable environment undermines the effectiveness of institutions. During periods of political turmoil, legal systems may become compromised, and contracts may not be upheld. This breakdown in institutional effectiveness increases the perceived risk for foreign investors, as they face challenges in protecting their investments and ensuring that agreements are honored. However, this finding contradicts the findings of Sabir, Rafique and Abbas (2019) which found institutional quality such as political stability has a positive effect on FDI.

**Control of corruption and FDI**

The result showed that control of corruption has significant negative effect on FDI both in the short- and long-run. This suggest that lack of control over corruption signals weak governance, reducing investor confidence in the country's ability to protect assets and enforce contracts fairly. When corruption is rampant, investors face uncertainty in decision-making, such as unpredictable costs, arbitrary regulatory enforcement, or favouritism. This unpredictability discourages FDI, as businesses prefer stable and transparent environments. Corruption often leads to "unofficial" costs like bribes, inflated licensing fees, or other illegal payments, which can erode profit margins and deter investments.

In the long run, corruption becomes endemic, permeating all levels of government and economic activity. This creates inefficiencies in public administration and weakens the institutional framework, further dissuading FDI. As such, funds meant for public services or infrastructure are often siphoned off through corrupt practices, leaving the economy ill-equipped to support foreign businesses.

This finding is consistent with the new institutional economics theory which stated that when corruption is widespread, it directly undermines the efficiency of institutions, leading to higher transaction costs. For foreign investors, widespread corruption means that bribes, kickbacks, and other informal payments become a norm for engaging with public officials or navigating regulatory systems. These additional costs make it more difficult for investors to operate profitably and efficiently, which discourages investment. However, this finding contradicts the findings of Sabir, Rafique and Abbas (2019) which found institutional quality such as control of corruption has a positive effect on FDI.

**Error Correction Term (ECT)**

Error correction term (ECT) reflects the short-run dynamics and long-run equilibrium relationship between cointegrated variables. The result showed that the error correction term ECT(-1) value is -0.3946 with t-stat of -6.6586, which is significant at 1% level. The negative value of ECT indicates that the variable was below its equilibrium level, and the model will adjust upward to restore balance. Thus, the disequilibrium in short-run is corrected at the speed of adjustment of 39.46% per year in the long-run. This suggests that any deviation from the long-run equilibrium of foreign direct investment (FDI) in one year is corrected by 39.46% in the following year. In addition, the significant coefficients of ECT suggest that the sub-Sahara African economies has the ability to swiftly restore equilibrium following shocks, with an estimated adjustment speed of 39.46%. This demonstrates the economies' resilience and capacity to return to a balanced state in each period when experiencing disequilibrium situations.

**5.0 Conclusion and Recommendations**

The study concluded that the internal macroeconomic factors and internal institutional quality indicators affect foreign direct investment in sub-Saharan Africa. Therefore, the study recommended that investors should focus on investing in Sub-Saharan African countries with stable macroeconomic environments, strong institutional frameworks, and policies that promote trade openness, regulatory quality, and political stability, as these factors create the most favourable conditions for long-term investment growth. Additionally, policymakers should prioritize strengthening the effectiveness of institutions by ensuring political stability, implementing effective anti-corruption measures and promoting regulatory efficiency, as these will enhance investor confidence and create a more attractive macroeconomic environment for both domestic and foreign investments.

Given the limitation of grouping different countries together despite individual peculiarities, future studies should focus more on individual countries or sub-regional bloc such as ECOWAS, SADC, or EAC. This would help researchers better understand how each country or region reacts to foreign capital inflows. It would also make it easier to consider differences in economic conditions, government systems, and financial policies.

Disclaimer (Artificial intelligence)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

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