

Determinants of Foreign Direct Investment in Six Fragile African Economies: Panel Data Modeling

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ABSTRACT

Low-income African countries continue to face persistent political, economic, and environmental challenges that constrain their ability to attract foreign direct investment (FDI). Poverty, institutional weaknesses, and recurrent political instability have deterred investors and limited growth. While the relationship between macroeconomic indicators and FDI has been widely studied, existing research has largely focused on relatively stable regions such as Northern and Southern Africa, leaving fragile economies underexplored. This study addresses this gap by analyzing the determinants of FDI inflows in six low-income African countries over the period 2010-2023. Using annual panel data and panel regression models, the analysis reveals that past inflows of FDI exert a strong persistence effect. In addition, gross domestic product (GDP), inflation, and labor force are found to significantly and positively influence FDI, whereas trade shows no significant impact. These findings provide new insights into the determinants of FDI in fragile African economies and highlight important economic policy directions for enhancing investment attractiveness in these regions.

Keywords: Foreign Direct Investment, Central Africa, Panel Data Analysis, Trade Openness, Inflation, Labor Force, Fragile Economies, Economic Growth, Investment Climate

JEL Classifications: F21, O55, C33, F43, E31, J21

1. INTRODUCTION

The Sahel region of West Africa, along with parts of Central Africa, is confronting a set of complex and multidimensional issues, referred to as the “Sahel crisis.” The high rate of poverty, vulnerability to harsh weather, shoddy institutions, and political marginalization have all contributed to the Sahel region’s ongoing problems. The emergence of extremist activities, which have caused political instability, bloodshed, and internal displacement in the region, has made these difficulties worse. The last 10 years have seen a major decline in human development. Burkina Faso (184th) and Mali are two of the 191 nations included on the human development index, which includes metrics for income, education, and health. (186th), Niger (189th) and Chad (190th), who dropped

more than 20 points from their 2010 rankings, are in the bottom 10 as of 2022 (United Nations Development Programme, 2010; Times, 2021).

Since the 1970s, the area has also been vulnerable to periods of extreme drought. The region’s recent rise in the frequency of climate change-related events, including droughts, torrential floods, and floods, has exacerbated conflict (such as rivalry for natural resources) in the Sahel nations, destroyed infrastructure, increased food insecurity and agricultural output, and caused migration to urban areas (Mayans, 2020).

Mali is where violent and extremist activities are most prevalent in the region. These have resulted in a serious humanitarian

catastrophe, internal displacement, and extensive violations of human rights. Furthermore, the increasing instability has delayed the availability and accessibility of essential services, such as water, healthcare, and education; made it harder for businesses to operate; and deterred foreign investment and tourism. The nations in the epicenter of extremist attacks and operations have seen poor economic performance, weaker institutions, and rising rates of unemployment and poverty as a result of all these effects (Raga et al., 2023).

Foreign direct investment (FDI) flows and stocks inside a war-affected nation are significantly impacted by conflict. According to Li (2008), FDI flows are typically 40% lower in conflict-affected nations than in peaceful ones. Furthermore, countries with stronger economic linkages to one another are less likely to experience war, whereas nations with weaker FDI flows are more likely to do so than those with stronger FDI flows. According to Cate (2016), global FDI inflows decrease by about a third during armed conflicts, especially in lower-middle- and high-income nations. As investors grow more risk-averse due to political instability brought on by conflict or the threat of conflict, the situation can be made worse by elements such as governments' inclination to expropriate foreign direct investment (FDI), Azzimonti (2018). This implies that the possibility of violence might have a detrimental impact on FDI even when there isn't any conflict, Yamin and Sinkovics (2009).

The lack of human capital and infrastructural not development in African countries has made the business environment unfriendly. Comparing this hallway to others throughout the world is possible. A recent poll indicated that 27% of Africans have internet connectivity and 22% use mobile devices. Additionally, transit in Africa is the most costly in the world. Furthermore, the least amount of electrical power is still available in Africa (Gohou and Soumaré, 2012; Asiamah et al, 2019).

Among the key macroeconomic fundamentals, GDP plays a pivotal role in influencing FDI inflows. GDP is the total monetary or market value of all the finished goods and services produced within a country's borders in a specific period. As a broad measure of overall domestic production, it functions as a comprehensive scorecard of a given country's economic health. A very high and favorable GDP, representing a healthy economy with increasing market size, expanding consumer demand, and potential profitability for foreign investors, would attract FDI. So, GDP influences FDI, as is supported by several studies Sooreea-Bheemu et al., 2020; Ijirsha, 2019).

Similarly, trade openness enhances integration into global value chains, reduces barriers to market entry, and facilitates the movement of goods, services, and capital across borders. Ijirsha (2019) defines trade openness as the liberalization of cross-border commerce in commodities and services via greater integration among nations that are bound together by free labor and capital flows as well as free international trade and finance. Nations that attract foreign investors may now enter markets and participate in global value chains more easily because of trade regimes that have liberalized, lowered tariffs, and eliminated trade obstacles.

Despite extensive literature on the determinants of FDI in Africa, most studies have focused on relatively more stable or resource-rich regions, such as Southern or Northern Africa, leaving fragile and low-income economies insufficiently explored. This study seeks to address the gap in previous research by examining the determinants of FDI in six low-income African countries: Chad, Mali, the Central African Republic, Burkina Faso, Niger, and Guinea-Bissau over the period 2010-2023. Specifically, it investigates the impact of GDP growth, trade openness, inflation, and labor force participation on FDI inflows using panel data models. The remainder of the paper is structured as follows: Section 2 reviews the previous studies, Section 3 outlines the methodology and data description, Section 4 presents the empirical analysis, and Section 5 provides the conclusions and recommendations.

2. PREVIOUS STUDIES

Tsaurai (2018) examined how inflation affects foreign direct investment (FDI) and whether financial development can be used as a conduit to simulate the effect of inflation on FDI in Southern Africa using panel data analysis. Under fixed effects, inflation was found to have had a non-significant positive effect on foreign direct investment. The random effects showed that inflation had a negative but nonsignificant impact on foreign direct investment (FDI) in Southern Africa, but the pooled OLS showed that inflation had a significant negative impact. The interaction between inflation and financial development in Southern Africa had a positive but non-significant effect on foreign direct investment (FDI), according to both fixed effects and pooled OLS calculations.

Hong and Ali (2020) investigated how inflation affected foreign direct investment in Iran and Malaysia. The testing period for this study ranges from 1986 to 2016. Granger causality based on the VECM framework was used to test the short- and long-term relationships between variables; the Johansen and Juselius test was used to test for the presence of cointegration variables; and the Augmented Dickey-Fuller (ADF) unit root test was used to test for stationarity. Finally, the exogenous or endogenous nature of the variables was tested using variance decomposition. According to the empirical findings, foreign direct investment has a short-term impact on Malaysia's gross domestic product; in contrast, Iran shows no short-term causal correlations between the variables.

Abonazel and Elnabawy (2020) examined the dynamic causal links between Egypt's GDP, money supply, inflation rate, and foreign exchange rate from 2005: Q1 to 2018: Q2. We examine whether there is a long-term equilibrium relationship between the inflation rate and three variables (foreign exchange rate, money supply, and GDP) using the error correction model, which was created within an ARDL model, and the limits testing technique for cointegration. While actual GDP has no discernible impact on Egypt's inflation rate, the findings show that the exchange rate and money supply expansion have a substantial impact.

Abonazel et al. (2021) examined the dynamic causal link between Nigeria's oil exports, GDP, money growth, exchange rates, and inflation rate (as determined by the consumer price index (CPI))

between 2005:Q1 and 2019:Q4. A long-term link between the inflation rate and four drivers (exchange rate, GDP, money growth, and oil export) was examined using the ARDL bounds testing technique and error correction model. According to our study's findings, Nigeria's inflation rate for the following quarter will still be influenced by the country's GDP, money growth, exchange rate, and current inflation CPI. The inflation rate, however, is not significantly impacted by oil exports. Additionally, we determine how the exchange rate, money, and inflation CPI are cointegrated over the long term.

Srithilat et al. (2025) examined the connection between exports (EXPR), foreign direct investment (FDI), and real GDP (RGDPT) while adjusting for labor force participation (LBFR), inflation (INF), and exchange rate (EXCH). Utilizing data from the World Development Indicators from 1990 to 2022, investigate the short- and long-term economic dynamics using the ARDL bounds testing method. The findings indicate that while exports, currency rates, and inflation are not statistically significant, foreign direct investment (FDI) and labor force participation are the most crucial factors for long-term growth. As a result, all exports, foreign direct investment, and labor force participation have a positive short-term impact on growth, but a robust error-correcting system tends to preserve long-term equilibrium.

Sallam et al. (2025) evaluated the dynamic causal relationship between Egypt's inflation rate from 1990 to 2022 and four main economic factors: the money supply (M), foreign direct investment (FDI), exchange rate (EX), and balance of trade (BOT) variables. The main assumption of our analysis is that Egypt's inflation rate is highly impacted by the EX, M, FDI, and BOT variables. Due to the dynamic nature of the interaction between these variables, the autoregressive distributed lag (ARDL) technique was used to test this hypothesis both in the short and long term. The statistical findings showed that ARDL was the most effective model for fitting the data (2,2,2,2,2). Furthermore, the BOT, FDI, and EX variables have a major negative influence on the inflation rate. In the meantime, the money supply and long-term inflation are positively and strongly correlated. The lags of the EX, M, and FDI variables have a major impact on inflation. Moreover, the ARDL (2,2,2,2,2) model's error correction findings showed that economic adjustments between the five variables happen quickly (after just around 14 months).

A review of previous studies reveals that existing literature has not fully addressed the range of variables influencing FDI. To contribute to closing this gap, the present research examines the impact of GDP, trade openness, and the labor force on FDI inflows, using data covering the period from 2010 to 2023.

3. METHODOLOGY AND DATA DESCRIPTION

This section outlines the methodological framework and data employed to investigate the determinants of FDI in West and Central African countries. The methodology subsection explains the econometric techniques used to capture both temporal and

cross-country variations. The data subsection provides details on the countries under study, the period of analysis, and the variables selected.

3.1. Methodology

This study employs an econometric panel data approach to examine the determinants of FDI in six West and Central African countries over the period 2010-2023. Panel data models are utilized as they combine both cross-sectional and time-series dimensions, thereby enhancing the robustness of the estimates, capturing country-specific heterogeneity, and controlling for unobserved effects that may bias the results in purely cross-sectional or time-series analyses.

The empirical analysis begins with descriptive statistics to summarize the characteristics of the variables under study, followed by unit root tests to assess stationarity and ensure the reliability of the econometric models. A correlation analysis is then conducted to evaluate the relationships among the explanatory variables and to detect potential multicollinearity issues. Subsequently, estimation is performed using appropriate panel regression techniques, namely pooled OLS, fixed effects (FE), and random effects (RE). This methodological framework provides a comprehensive assessment of the factors influencing FDI in fragile African economies.

3.2. Data Description

This study analyzes the determinants of FDI in a selected group of West and Central African countries, namely the Central African Republic, Guinea-Bissau, Chad, Mali, Niger, and Burkina Faso, during the period 2010-2023. Annual panel data were collected from the World Bank database. In this application, the dependent variable is FDI, while the explanatory variables include GDP, inflation, labor Force, and Trade. These variables were chosen to reflect key macroeconomic and structural factors that may influence the inflow of FDI in fragile economies.

4. EMPIRICAL RESULTS

This section presents the empirical analysis carried out to investigate the determinants of FDI inflows in the selected low-income African countries. A sequence of diagnostic and estimation procedures is applied to ensure the reliability and robustness of the results. The analysis begins with a descriptive overview of the variables to highlight their main characteristics, followed by stationarity and collinearity diagnostics to address potential econometric issues. Subsequently, panel data models are evaluated, and the most appropriate model is selected. Finally, the results of the preferred model are discussed in detail to provide meaningful insights into the role of key macroeconomic and structural factors in shaping FDI inflows.

4.1. Descriptive Analysis

This section outlines the key macroeconomic indicators considered in the empirical application carried out in this study. Examining these variables allows for a preliminary understanding of the dataset's structure and main characteristics before moving to the

estimation stage. Table 1 presents descriptive statistics for the variables selected in the application.

The average value of FDI as a percentage of GDP is approximately 2.61%, with a standard deviation of 2.35%, indicating moderate variability across observations. This aligns with prior studies that have noted fluctuating FDI inflows in fragile economies due to institutional instability.

GDP shows a notably wider dispersion, with a mean of 1.15% and a high standard deviation of 5.11%, which may reflect economic volatility or sharp growth contractions in specific years. The extreme minimum value of -36.82% further emphasizes this variation, possibly indicating episodes of conflict or external shocks. Similarly, inflation exhibits substantial variability (Mean = 2.47% , Standard Deviation = 3.29%), ranging from deflationary episodes (-3.23%) to inflationary spikes (14.89%).

The labor force variable, with a mean of approximately 4.83 million people and a wide range between 565,545 and over 10 million, reflects significant demographic differences among the countries studied. Finally, trade openness (Mean = 49.63% of GDP) displays relatively stable behavior, with modest dispersion (Standard Deviation = 7.94), suggesting consistent trade policies or external engagement across the sample.

Table 2 shows the disaggregated country-level statistics for Foreign Direct Investment (FDI), revealing notable heterogeneity across the six selected low-income economies.

In Table 2, Niger stands out with the highest average FDI inflow (mean = 6.10%), significantly surpassing the overall sample mean of 2.61% . This could reflect recent improvements in the investment climate or targeted natural resource projects. In contrast, the Central African Republic records the lowest average FDI (mean = 0.94%) with minimal variation (Standard Deviation = 0.95), suggesting structural constraints to attracting foreign capital. Chad,

Table 1: Summary of descriptive statistics for the variables

| | FDI | GDP | Inflation | Labor force | Trade |
|--------------------|---------|----------|-----------|-------------|---------|
| Mean | 2.6110 | 1.1456 | 2.4690 | 4827107 | 49.6337 |
| Median | 2.5520 | 1.9023 | 1.7350 | 6011506 | 49.5065 |
| Max. | 12.1645 | 9.9236 | 14.8987 | 10094779 | 64.8439 |
| Min. | -3.7232 | -36.8246 | -3.2334 | 565545.0 | 33.0595 |
| Standard deviation | 2.3477 | 5.1055 | 3.2962 | 2805451 | 7.9419 |

The total number of observations is 84

Table 2: Descriptive statistics for FDI in the countries under study

| Country name | Mean | Max. | Min. | Standard deviation |
|--------------------------|--------|---------|---------|--------------------|
| Burkina Faso | 1.5192 | 3.6477 | -0.5573 | 1.4256 |
| Central African Republic | 0.9395 | 2.8713 | 0.0747 | 0.9472 |
| Chad | 2.6954 | 4.7799 | -3.7232 | 2.0432 |
| Guinea-Bissau | 1.7827 | 4.5103 | 0.6313 | 0.9958 |
| Mali | 2.6258 | 4.1953 | 0.8512 | 0.8192 |
| Niger | 6.1033 | 12.1645 | 2.6240 | 2.8720 |
| All | 2.6110 | 12.1645 | -3.7232 | 2.3477 |

The time dimension for each country is 14 years

while having a relatively high mean (2.70%), exhibits the greatest volatility (Standard Deviation = 2.04) and the lowest minimum value (-3.72%), likely due to conflict-driven capital flight or withdrawal of investors in specific years. Niger also displays the highest maximum FDI observed in the dataset (12.16%), indicating periods of exceptional inflows that skew the overall distribution. Meanwhile, Guinea-Bissau, Mali, and Burkina Faso show moderate average FDI values between 1.5% and 2.6% , with lower standard deviations, suggesting relatively stable but modest foreign investment performance. Figure 1 presents the mean values of FDI for each country over the period 2010-2023.

Figure 1 highlights distinct country-specific patterns, suggesting heterogeneous macroeconomic environments within the sample. For instance, Niger consistently registers higher average values in FDI and trade, potentially linked to natural resource exploitation and donor-driven external engagement. In contrast, the Central African Republic and Burkina Faso demonstrate relatively lower and more stagnant performance across most indicators, possibly reflecting prolonged political instability and weak institutional capacity. Fluctuations in inflation are evident in Chad and Guinea-Bissau, indicating episodes of macroeconomic imbalance. Similarly, variations in GDP trends suggest differences in resilience and growth models across countries. The labor force variable remains relatively stable, but it is naturally higher in countries with larger populations, such as Mali and Niger.

Figure 2 presents the annual mean values of FDI inflows as a percentage of GDP across all six countries between 2010 and 2023. The figure shows a fluctuating pattern, reflecting sensitivity to global economic cycles, commodity price volatility, and domestic policy shifts.

A notable peak appears around 2011, which may correspond with favorable investment reforms or post-crisis recovery periods in select countries. Conversely, dips in years like 2020 could be associated with regional instability, global downturns, or investor uncertainty. The overall trend suggests that while some progress has been made in attracting foreign capital, FDI remains highly volatile and sensitive to both external shocks and internal governance dynamics.

4.2. Stationarity and Unit Root Diagnostics

In empirical research using panel data, examining the stationarity of the study variables is an essential preliminary step. The presence of non-stationary series can distort the statistical properties of the estimators, leading to misleading results and unreliable inference. To address this issue, unit root tests are employed to determine whether the variables exhibit stable statistical behavior over time. Checking stationarity of the variables provides a solid foundation for accurate estimation and meaningful results, see, e.g. (Abonazel et al., 2025a; Ahmed et al., 2024). Table 3 presents the results of the panel unit root tests using both the ADF-Fisher and PP-Fisher methods to examine the stationarity of the variables under study.

As shown in Table 3, the p-values across all variables are below the conventional significance level of 0.05 in both tests,

Figure 1: Mean trend of the studied variables during the period from 2010 to 2023 for each country

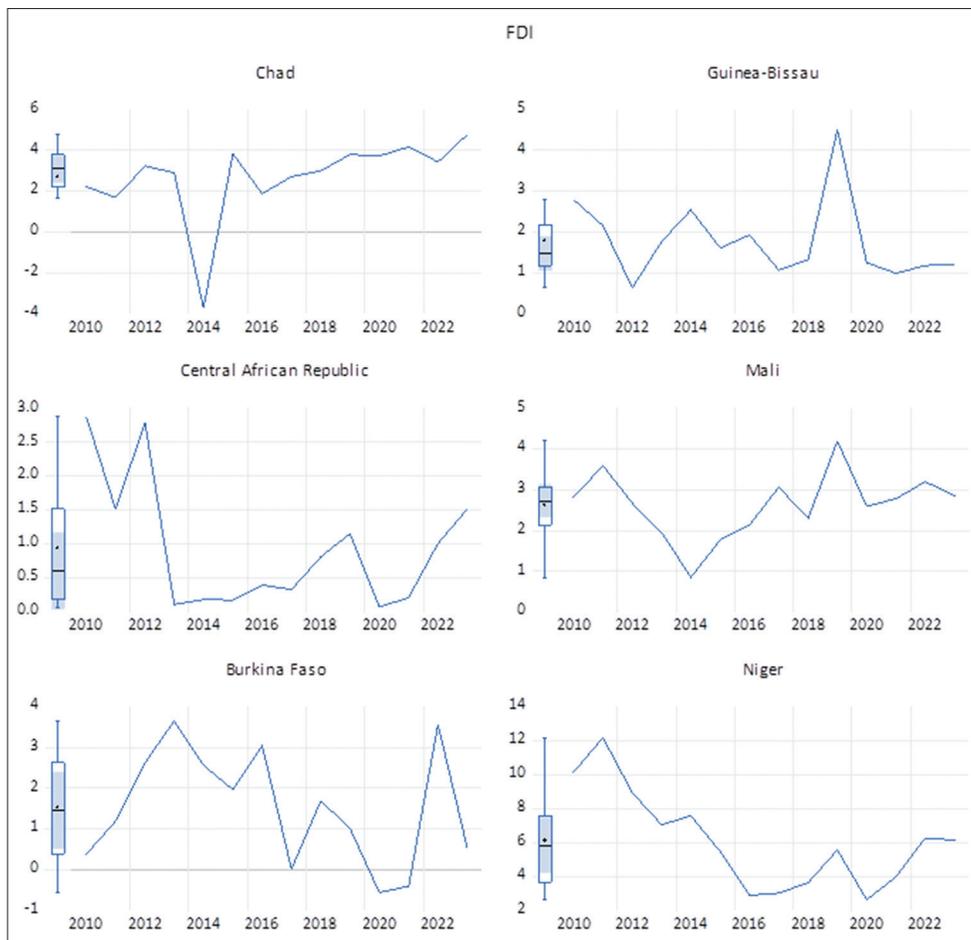
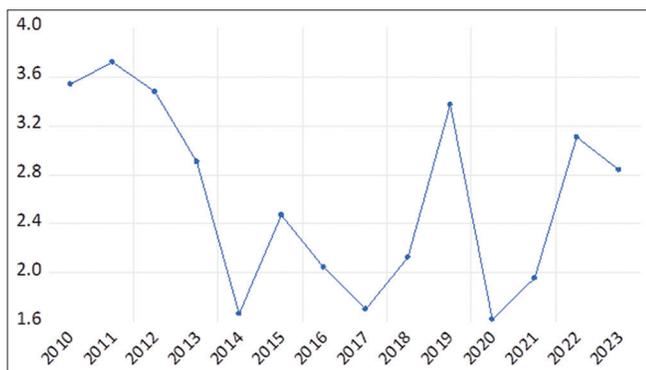


Figure 2: Mean of the FDI variable for all countries by each year



indicating strong statistical evidence to reject the null hypothesis of a unit root. The ADF-Fisher test yields a chi-square value of 22.74 for FDI with a p-value > 0.05, while the corresponding PP-Fisher test shows a stronger result ($\chi^2 = 38.17, P > 0.001$). Similar trends are observed for the remaining variables, with highly significant test statistics in both tests. All the variables exhibit extremely strong stationarity, with P-values < 0.01 and 0.001. These results confirm that all variables are stationary at the level, i.e., integrated of order zero (I (0)), meaning that they do not contain a unit root.

4.3. Collinearity and Variance Inflation Diagnostics

It is important to examine the relationships among the explanatory variables to detect potential multicollinearity. When strong correlations exist between independent variables, the reliability and stability of the estimated coefficients may be adversely affected. To avoid biased inference and unstable parameter estimates, the analysis should include procedures that identify and mitigate multicollinearity. Accordingly, this part of the study is devoted to assessing the presence of such correlations to enhance the robustness and accuracy of the empirical results, see, e.g. (Youssef et al., 2021; Youssef et al., 2020). Table 4 summarizes the Pearson correlation coefficients among the independent variables as well as their variance inflation factor (VIF) values, which are used to detect potential multicollinearity in the regression model.

As reported in Table 4, the correlation coefficients indicate that the relationships between the explanatory variables are generally weak. GDP and trade exhibit a positive correlation ($r = 0.2322$), whereas inflation displays a slight negative correlation with both GDP ($r = -0.1344$) and labor force ($r = -0.1319$). In addition, the correlation between labor force and GDP is relatively small ($r = 0.0839$). In terms of the VIF values, all variables present values close to 1, with the highest being GDP (VIF = 1.115). These results indicate that multicollinearity is not an issue in the

current model, as all VIF values fall far below the conventional cut-off value of 10. Even under more conservative thresholds (e.g., $VIF > 5$), the results confirm that the explanatory variables are sufficiently independent from one another to allow reliable coefficient estimation.

4.4. Estimates from Panel Data Models

Panel data techniques provide a robust framework for assessing the determinants of FDI by capturing both cross-country heterogeneity and temporal dynamics. This is particularly important in the case of fragile and low-income African countries, where structural differences and country-specific characteristics may strongly influence investment inflows. In this context, the analysis examines the effects of GDP growth, trade, inflation, and labor force participation on FDI across the selected countries during the period 2010 to 2023. Table 5 presents the regression results obtained from three estimation techniques: Pooled OLS, FE, and RE models, using lagged FDI as the dependent variable.

Across all models, the lagged value of FDI ($FDI(-1)$) is highly significant at the 0.001 level, with positive coefficients ranging from 0.4201 in FE model to 0.6385 in OLS model. This confirms the presence of FDI persistence, indicating that past FDI inflows are a strong predictor. GDP is positively associated with FDI in both OLS and RE models, statistically significant at the 0.01 and 0.001 levels, respectively, suggesting that higher economic growth attracts foreign investment. However, the coefficient loses

statistical significance in the FE model, likely due to the model controlling for time-invariant country-specific characteristics.

Inflation exhibits a positive and statistically significant coefficient only in the RE model at the 0.01 level, suggesting a mild tolerance for inflation among investors in the context of low-income countries, though its impact remains relatively small. The labor force has a consistently positive effect in the OLS and RE models, with very small but statistically significant coefficients, indicating that larger labor markets may slightly enhance FDI attractiveness. The trade variable is not statistically significant in any of the models, and its coefficient even shifts sign depending on the estimation technique, implying a weak or inconsistent role of trade openness in determining FDI inflows in the sample.

4.5. Determining the Best Performing Model

In panel data econometrics, the choice of the appropriate model plays a critical role in ensuring the validity and precision of the results. To identify the most suitable model, several diagnostic tests are commonly applied, see, e.g. (Abonazel et al., 2025b).

From a model comparison perspective, the Group Effect Test ($\chi^2 = 12.61, P < 0.05$) supports the use of the FE model over pooled OLS model. Also, the result of the Breusch-Pagan test ($\chi^2 = 764.79, P < 0.001$) supports the use of the RE model over pooled OLS model. Then, we compare the FE and RE models using the Hausman test. The Hausman test ($\chi^2 = 4.50, P = 0.4802$) fails to reject the null hypothesis, indicating that the RE model is the preferred specification over the FE model.

Table 3: Results of panel unit root tests for all variables

| Variables | ADF-Fisher test | PP-Fisher test | Integration (degree) |
|-------------|-----------------|----------------|----------------------|
| | Chi-square | Chi-square | |
| FDI | 22.74* | 38.17*** | I (0) |
| GDP | 29.02** | 61.26*** | I (0) |
| Inflation | 28.22** | 36.55*** | I (0) |
| Labor force | 39.76*** | 76.15*** | I (0) |
| Trade | 46.29*** | 70.22*** | I (0) |

The symbols ***, **, and * denote statistical significance at $P < 0.001, 0.01,$ and $0.05,$ respectively

Table 4: Pearson correlation matrix and VIF values

| Independent variables | GDP | Inflation | Labor force | Trade | VIF |
|-----------------------|---------|-----------|-------------|--------|--------|
| GDP | 1.0000 | | | | 1.1150 |
| Inflation | -0.1344 | 1.0000 | | | 1.0182 |
| Labor force | 0.0839 | -0.1319 | 1.0000 | | 1.0142 |
| Trade | 0.2322 | -0.0008 | 0.1603 | 1.0000 | 1.1068 |

Table 5: Estimated coefficients for panel data models

| Variable | OLS | FE | RE |
|-------------|------------|-----------|------------|
| FDI (-1) | 0.6385*** | 0.4201*** | 0.6141*** |
| GDP | 0.0714** | 0.0421 | 0.0676*** |
| Inflation | 0.0847 | 0.0682 | 0.0821** |
| Labor force | 1.48E-07** | -9.57E-08 | 1.52E-07** |
| Trade | -0.0163 | 0.0396 | -0.0095 |
| Constant | 0.7124 | -0.2308 | 0.4334 |

The symbols ***, **, and * denote statistical significance at $P < 0.001, 0.01,$ and $0.05,$ respectively

5. DISCUSSION OF THE FINAL MODEL RESULTS

Based on the results reported in Table 6, both the OLS and FE models are unsuitable for this dataset. Therefore, the RE is selected as the appropriate model to analyze and explain how GDP, inflation, labor force, and trade affect FDI inflows in the selected African countries.

The final RE model reported in Table 7 provides important insights into the determinants of FDI in the selected African countries. The model is statistically significant, as evidenced by the high F-statistic of 15.78, which is significant at the 0.001 level, confirming that the explanatory variables collectively have a strong influence on FDI inflows. Moreover, the adjusted R^2 value shows that the model explains approximately 47% of the variation in FDI, highlighting the substantial explanatory power of the selected variables.

Specifically, the positive and highly significant coefficient of the lagged dependent variable indicates a strong persistence of FDI inflows, suggesting that countries attracting relatively higher levels of FDI in one period are more likely to continue receiving additional inflows in subsequent periods. This pattern reflects the cumulative and path-dependent nature of foreign investment. Once a host country succeeds in attracting FDI, it tends to establish a favorable investment environment by improving infrastructure,

Table 6: Results of specification tests

| Models | Tests | χ^2 statistic | P-value |
|--------------------------|--------------------|--------------------|---------|
| Pooled model or FE model | Group Effect test | 12.61** | 0.0274 |
| Pooled model or RE model | Breusch-Pagan Test | 764.79*** | 0.00001 |
| FE model or RE model | Hausman test | 4.504 | 0.4802 |

Table 7: Estimation results of the final model

| Variable | Estimate | Standard error | t-value | P-value |
|---------------------|------------|----------------|----------|---------|
| FDI (-1) | 0.6141*** | 0.152108 | 4.036947 | 0.0001 |
| GDP | 0.0676*** | 0.01633 | 4.139804 | 0.0001 |
| Inflation | 0.0821** | 0.015941 | 5.152437 | 0.0001 |
| Labor force | 1.52E-07** | 7.03E-08 | 2.162162 | 0.0335 |
| Trade | -0.0095 | 0.026163 | -0.36445 | 0.7165 |
| Constant | 0.4334 | 1.448595 | 0.299181 | 0.7656 |
| Adj. R ² | | 0.471 | | |
| F-Statistic | | 15.78*** | | |

The symbols ***, **, and * denote statistical significance at $P < 0.001$, 0.01 , and 0.05 , respectively

strengthening business networks, and reducing information costs for subsequent investors. These mechanisms contribute to higher productivity, lower investment risks, and greater certainty, thereby fostering sustained capital inflows and long-term economic growth. Collectively, these findings highlight the critical importance of maintaining coherent, continuous, and stable investment policies to build momentum and secure durable inflows of foreign capital.

GDP emerges as a central and highly significant determinant of FDI in fragile African economies, with a positive coefficient. This finding aligns with economic theory, which emphasizes that larger and faster-growing markets attract greater inflows of foreign capital. From an economic perspective, higher GDP reflects expanding market size, stronger consumer purchasing power, and all of which improves the profitability prospects of multinational firms. In addition, growing economies provide broader consumer bases, better infrastructure, and more diverse opportunities for investment, making them particularly attractive destinations for foreign companies seeking growth and profit. The strong statistical significance further indicates that market-seeking motives play a critical role in shaping FDI inflows into West and Central African countries, where domestic demand remains a key driver of foreign capital inflows.

Inflation also enters the model with a positive and statistically significant effect. Although inflation is typically associated with macroeconomic instability, in fragile economies moderate inflation may instead reflect continued economic activity, liberalization, or expansionary monetary policies aimed at spurring demand. In this context, investors may perceive moderate inflation as an indicator of robust market conditions rather than instability, if it remains within controllable limits. Inflation can signal robust demand, relative price adjustments consistent with liberalization, or growth-oriented dynamics that create favorable opportunities for investment.

The labor force variable is positive and statistically significant, though its coefficient is very small. This indicates that the availability of human capital plays an important role in attracting

foreign investment. Demographic potential provides an incentive for labor-intensive industries, as a larger labor force ensures the availability of workers and helps reduce production costs. However, the quality of the workforce in terms of education, productivity, and skills may be more pivotal than its size. Thus, while the model captures mainly the quantitative effect, the policy implications emphasize investing in human capital development as a sustainable strategy to enhance FDI attractiveness and ensure the long-term viability of foreign investment projects, particularly in fragile economies.

The trade variable's coefficient is not statistically significant, which is surprising given the established link between trade openness and FDI. This suggests that, for these specific countries, trade policy alone may not suffice to attract foreign investment. This could be due to other factors, such as political instability, institutional weaknesses, or inadequate trade infrastructure. It also indicates that trade has no independent impact on FDI inflows. This outcome may reflect structural realities, as FDI into fragile economies is often market-seeking or resource-seeking rather than efficiency-seeking. Consequently, investors tend to focus on natural resource availability and domestic demand rather than using these countries primarily as export platforms.

6. CONCLUSIONS

This study contributes to the literature by examining the determinants of FDI in fragile, conflict-affected, and low-income African economies, providing novel insights into how some macroeconomic variables interact to shape investment flows. By focusing on a region often neglected in empirical research, the analysis improves the understanding of how economic weaknesses and institutional fragility influence investor behavior. The findings also carry practical relevance, offering policymakers valuable guidance on how to enhance resilience, strengthen economic stability, and attract sustainable foreign investment.

The empirical results reveal that FDI inflows are strongly influenced by selected macroeconomic variables. Market size, associated with GDP, is confirmed as a key determinant, highlighting the central role of economic growth in attracting foreign capital. The labor force also proves to be a significant factor, reflecting the importance investors attach to human capital, even in fragile contexts. Inflation also exhibits a positive association with FDI. In contrast, trade appears insignificant, confirming that external openness alone is insufficient to stimulate investment in the absence of institutional and structural reforms. Collectively, these results provide a robust empirical foundation for understanding the determinants and constraints of FDI in fragile African economies.

Building on these findings, several policy directions can be drawn to help these economies better to attract FDI. Policymakers should focus on strategies that sustain GDP growth, as larger markets are key in attracting foreign investors. At the same time, strengthening labor market capacity through investments in education, skills development, training, and workforce participation is equally vital for enhancing competitiveness, making these economies more attractive to FDI. Ensuring macroeconomic stability is equally

important; while moderate inflation may be tolerated by investors, broader fiscal and monetary stability is crucial for building long-term confidence. Trade policies also require careful reassessment, as liberalization must be complemented by institutional reforms and infrastructure development to translate openness into tangible investment benefits. Finally, governments should maintain credibility and consistency in policy implementation to strengthen investor confidence and secure sustained inflows of foreign capital.

While these recommendations address immediate economic policy needs, further research is necessary to deepen the understanding of FDI dynamics in fragile contexts. Future studies should incorporate governance and institutional indicators to capture the effects of political stability and explore sector-specific patterns of FDI to assess potential differences. Comparative research with more stable African economies would also be valuable in highlighting the specific role of fragility in shaping investment dynamics. Overall, this study not only clarifies the macroeconomic determinants of FDI in fragile African economies but also provides both a roadmap for policymakers and a basis for future scientific research.

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