Financial Development and Capital Inflows in Small Open Economies: A Focus on Foreign Direct Investments in West Africa Monetary Zone (WAMZ)

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ABSTRACT

This study explores the implications of financial development on capital inflows in Small Open Economies with a focus on five countries (Nigeria, Ghana, Sierra Leone, Liberia, and Guinea) in the West Africa Monetary Zone (WAMZ). Using panel datasets, this study provides useful insights into the effects of financial development measured by financial access, depth and efficiency indexes on inflows of foreign direct investments (FDI) in the WAMZ. The estimation and presentation of static panels including pooled regression, fixed effects and random effects models as well as the Hausman test were provided. The results showed that the financial access index contributed positively to FDI inflows during the study period. The efficacy of financial services accessibility in attracting FDI into the WAMZ is demonstrated by this remarkable finding. The results also showed that the financial depth affected FDI inflows positively during the study period. This finding explains that the deepening of the financial sector through an increased ratio of the private sector credit to GDP has the potential to attract more FDI inflows to the study area. However, the financial efficiency index is not significant in attracting FDI to the WAMZ. This could be attributed to the inefficiency in the allocation of financial resources often associated with underdeveloped financial sectors in each of the countries in the study area. While this study provides meaningful evidence of the significant roles of financial access and depth indexes in attracting FDI to the WAMZ, it recommends that monetary authorities such as the CBN and deposit money banks should increase financial services access and deepen the financial sector to boost the capacity to serve both domestic and foreign investor and provide a good signal for inflows of FDI to the WAMZ.

Keywords: Capital inflows, FDI, financial development, financial access, financial depth and WAMZ

INTRODUCTION

Financial development which encompasses a broad range of aspects, including the depth, efficiency, stability, and accessibility of financial systems plays a pivotal role in facilitating investment, enhancing savings mobilization, and improving resource allocation. It also provides the basis for improving the quality and quantity of financial services for households and businesses at lower transaction costs. Schumpeter (1912) provided the theoretical standpoint linking financial development to economic growth. This was elaborated in later studies by Levine & Zervos (1996) and Levine (1997) who provided stronger evidence indicating that financial development is an important enabler of economic growth. As an essential part of economic growth, the international expansion of firms through foreign direct investment (FDI) is largely affected by the extent of financial development. It is argued that a well-developed financial sector can improve access to external finance, which can encourage FDI inflows. Osei & Kim (2020) posit that the level of financial market development is important for mobilising FDI and shaping its contribution to economic growth. This has increased the emphasis on gradual and continuous financial sector development to reduce various entry barriers and open new sectors to foreign investment.

Furthermore, the development of the financial sector is critical for facilitating interactions between foreign and local firms which creates opportunities for FDI inflows. Studies such as Ezekwe & Chidi (2024); Singh *et al.* (2023); Nguyen & Lee (2021) and Khan & Ozturk (2021) highlight that countries benefit from having a developed financial sector that enables them to make significant improvements in the process of sustainable development. This follows the understanding that an advanced financial system has the potential to facilitate

investments in sectors that contribute to sustainable development, such as clean energy, sustainable agriculture, and eco-friendly technologies. These are situated within the 2030 agenda of sustainable development.

As documented in the extant literature, financial development is crucial for the expansion of the domestic market and overall economy-wide aggregate which provides a good signal for inflows of FDI. Following the UNTCD (2010) report restrictive external financing conditions resulting from the global financial crisis caused an abrupt decline in FDI inflows to developing economies between 2008 and 2008, Desbordes and Wei (2017) posit that access to external finance is an important determinant of FDI. This highlights the imperativeness of financial development for the growth of FDI inflows. Although a large body of previous studies () indicates that FDI generates net gains for both home and host countries, the extent of financial development plays a crucial role in attracting FDI inflows to the host countries. Despite some level of improvements in the financial system witnessed in Africa in the wave of liberalization that commenced in the mid-1980s, the overall financial system in the continent has been largely described as undeveloped, thereby generating concerns for policymakers, investors and researchers. In light of the foregoing, this study seeks to deepen the understanding of the implications of financial development, financial access, depth and efficiency effect on FDI inflows to the WAMZ.

LITERATURE REVIEW

Theoretical Literature

The neoclassical theory of capital flows provides notable insights into the determinants of capital mobility including FDI. According to the theory, capital tends to flow from capital-abundant economies to capital-poor economies due to the relatively higher marginal productivity of capital in the latter. Sanchez-Martin et al. (2014) explain that the core of the neoclassical theory is that capital should flow to less capital-intensive economies to exploit the difference in relative factor endowments. The theory also assumes that relative scarcities cause an inverse relationship between factor prices, which are set by supply and demand. However, the neoclassical theory was contradicted by Lucas (1990) who empirically established that capital movements largely occurred between developed economies. Campos & Kinoshita (2008) posit that domestic financial conditions play a critical role in shaping FDI decisions in the host countries. They equally acknowledge that financial sector reforms have a signalling effect as part of a host economy's overall reform process, which raises the possibility of an inward FDI.

Furthermore, Desbordes and Wei (2017) assert that financial development in the host nation can only serve as a pull factor for FDI if a sizable portion of the multinational corporations' capital is raised in the host economy; otherwise, it may serve as an incentive for a greater substitution of integration with foreign outsourcing. In the latter instance, it might discourage FDI inflows. The institutional quality theory proposed by North (1990) also provides some insights into the nexus between financial development and FDI inflows to host countries. It is believed that strong financial institutions, such as banks and stock exchanges, guarantee property rights, uphold contracts, and mitigate corruption, thereby providing an enabling environment for investment. Again, effective governance reduces the risks and uncertainties of investing in a country, which mobilises more foreign investments to the host country.

Empirical Literature

Nkoa (2018) explored the impact of financial development on FDI in 52 African countries between 1995 and 2015 with the cross-sections comprising 35 countries without a financial market and 17 countries with a financial market. The Generalized Method of Moments (GMM) formed the basis for the analysis and the findings showed that money and quasi-money, banking credit to the private sector, and interest rate liberalization affected FDI positively in countries without financial markets. The study further showed that money and quasi-money, market capitalization, and financial market value traded are positively linked to FDI in countries with financial markets. The study reiterated the need for countries in Africa to deepen their financial reforms to create more opportunities for FDI inflows.

Using two-stage least squares, Iddrisu, Abor & Banyen (2024) investigated the interplay of financial development, globalization, and FDI in a sample of 49 African countries between 1997 and 2020. The findings

showed that both financial development and globalization are essential in mobilizing FDI in Africa. As an integral aspect of financial development, financial market development is significant in attracting FDI inflows. The findings also show that economic globalization attracted more FDI than other components. The study recommended that policymakers should emphasize the development of stock exchanges, banking systems, and insurance industries while reducing trade barriers, and promoting economic integration. Similarly, an earlier study by Haque, Biqiong & Arshad (2022) which focused on using the the panel ARDL estimation method to examine the long and short-term effects of different sources of financial development on FDI inflow for middle-income economies between1980 and 2020 established that financial market development alongside inflation rate, trade openness, and real economic growth are the most critical factors driving FDI inflow in middle-income economies. Thus, the study recommended that efforts should be made to reinforce financial reforms to enhance the extent of financial development for increased inflows of FDI to the region.

Desbordes & Wei (2017) analysed the implications of the source and destination countries' financial development on FDI. The findings showed that financial development increased access to finance which enhanced the growth of greenfield, expansion, and mergers & acquisitions FDI in the study area. The study also showed that the direct and indirect effects of source and destination countries' financial development vary across the types of FDI. Similarly, Islam *et al*. (2021) found that financial sector development is an important driver of FDI inflows to the host countries. In addition, Ines & Odjoumani (2023) employed panel data and the GMM method to investigate how governance quality and financial development affected inward FDI to the Middle East and North Africa (MENA) region. It is evident from the results that banking sector development and capital account openness are critical in attracting FDI to the MENA region. The study showed that the benefits of FDI inflows is greater in countries above the governance threshold.

MATERIALS AND METHODS

Data and Variable Description

The data required for this study were obtained from the World Bank World Development Indicators (WDI) over the period (1990 – 2022) for each selected country. The net FDI inflows formed the basis for measuring capital mobility. Essentially, the percentage of the net FDI inflows to gross national income (GNI) was utilised. In addition, the financial development indicators comprised the core indexes of financial access, depth and efficiency. The financial access index is restricted to the extent individuals and businesses can access financial services often captured by the number of bank branches, interest rates, account ownership and credit to economic agents, among others. On the other hand, the financial depth index is measured by the share of the private sector credit to GDP while the financial efficiency index includes efficiency in the delivery of financial services in terms of interest rate spreads or transaction costs.

Model Specification

The model specification for this study closely followed the work of Iddrisu, Abor & Banyen (2024) and Haque, Biqiong & Arshad (2022) with some improvements in terms of the measure of financial development indicators. The model is specified in a functional form as:

$$FDI = f(FAS, FDE, FEI) \quad (1)$$

Where: FDI = Net FDI inflows to GDP, a measure of inward capital mobility, FAS = financial access index, FDE = Financial depth index and financial efficiency index. The sspecifications of pooled, fixed effects and random effects models are as follows:

Pooled Regression Models

$$FDI_{it} = \beta_0 + \beta_1 FAS_{it} + \beta_2 FDE_{it} + \beta_3 FEI_{it} + \varepsilon_{it} \quad (2)$$

Where: β_0 = intercept to estimated, B_i– β_3 = slope parameters to be estimated and ε_{it}= error term, *i = 1, . . ., N. t = 1, . . ., T,* i = cross-sectional units, especially selected countries in the WAMZ and t = time frame (1990 to 2022)

Fixed Effects Models

$FDI_{it} = \beta_0 + \beta_1 FAS_{it} + \beta_2 FDE_{it} + \beta_3 FEI_{it} + U_i + \varepsilon_{it}$ (3)

Where: U_i= fixed effects (individual effects)

Random Effects Models

$GDP_{it} = \beta_0 + FDI_{it} = \beta_0 + \beta_1 FAS_{it} + \beta_2 FDE_{it} + \beta_3 FEI_{it} + U_i + v_{it}$ (4)

Where: U_i= Random effects (individual effects) and v_i= Remainder disturbance term

Data Analysis Techniques

Descriptive statistics was employed to analyze the distribution of each of the financial development indicators and FDI inflows to the sampled countries over the study period. The emphasis on descriptive statistics is restricted to the mean, standard deviation, minimum, and maximum values. A panel unit root test based on the Im, Pesaran & Shin (IPS, 2003) method was employed in this study to test for the stationarity process in each of the series. The null hypothesis that all panels contain a unit root was tested against the alternative hypothesis that at least one panel does not contain a unit root at the 5% level. More importantly, static panel regression involving pooled OLD, fixed and random effects models were estimated. Essentially, the estimation of the pooled OLS followed the assumption that the intercept and slope coefficients would be homogeneous over time and among the sample countries. On the other hand, the fixed effects model which followed Mundlak (1961) prediction was estimated using the within-regression estimator with heterogeneous intercept coefficients due to individual units but homogenous slope coefficients. Additionally, Balestra and Nerlove's (1966) random effects model was estimated using the maximum likelihood (ML) -estimator. It is mainly restricted to the one-way error components model due to individual effects. The Hausman (1978) test was employed to decide the preferred model between the estimated fixed and random effects models.

FINDINGS AND DISCUSSION

Descriptive Statistics

The descriptive statistics for each variable focused on the mean distribution, standard deviation and minimum and maximum values over the study period. The results are presented in Table 1.

Table 4.1 Summary of descriptive statistics

Variable	Observation	Mean	Std. dev.	Min	Max.
FDI	115	7.596	16.284	-20.491	103.337
FAS	115	0.159	0.200	0.0081	0.507
FDE	115	0.0357	0.0231	0.0056	0.112
FEI	115	0.485	0.090	`0.237	0.654

Source: STATA output (2025)

The mean distribution of the variables showed that FDI averaged 7.596% of GDP during the study period, with minimum and maximum values of -2.491% and 103.337%, respectively. The standard deviation of 16.245 exceeded the mean value, indicating that the observations for FDI during the study period are divergent from the corresponding mean. This also highlights the large variations in the inflows of FDI among the countries in the study sample. It is also evident from the results that the financial access index averaged 0.159 and it is associated with a standard deviation of 0.200. This attests to the poor level of financial access in the countries which could be linked to the high cost of borrowing and limited collateral conditions, among others that have continued the financial institutions in Africa including the WAMZ. In addition, the results showed that the mean values for the financial depth index and financial efficiency index are 0.0357 and 0.485 respectively. The corresponding standard deviations of 0.0231 and 0.090 are less than the associated mean values, indicating that the observations for the financial depth and efficiency indexes converged around their respective mean.

Unit Root Test

The variables for this study were subjected to unit root using the IPS method. The summary of the test results is presented in Table 2.

Table 2: IPS panel unit root test results

Variable	IPS test results at levels	IPS test results at 1st diff.	Order of integration
FDI	-1.0914**(0.0459)	-	I(0)
FAS	-2.1645***(0.0017)	-	I(0)
FDE	-4.0284***(0.0000)	-	I(0)
FEF	-6.0313***(0.0000)	-	I(0)

Source: STATA output (2024)

Note: *** p<0.01, ** p<0.05, * p<0.1 denote significant at 1%, 5% and l0% level respectively

It is evident from the unit root test results that FDI is stationary at levels. This based on the fact the probability value of the test statistic is less than 0.05. Thus, FDI is integrated of order zero, I(0). The results further showed that the financial access and depth indexes are stationary at levels. This finding provides the basis for rejecting the null hypothesis of unit root. It follows from the results that the variables are integrated of order zero, I(0). Similarly, evidence of stationary was established for the financial efficiency index. Given the findings, all the variables are stationary, indicating that their mean and variance are time-invariant.

Model Estimation

Given the stationarity process in all the variables, the static panels including pooled regression fixed and random effects models were estimated results. The results are presented in Table 3.

Table 3: Summary of the panel regression results

Dependent variable: FDI	(1)	(2)	(3)
Variable	POLS	FE	RE
FAS	2.106***	8.016	9.107***
	(0.127)	(5.213)	(3.079)
FDE	4.0771	11.371**	7.152***
	(3.481)	(4.935)	(1.387)
FEI	1.9035	3.075	2.614
	(2.015)	(2.165)	(3.702)
Constant	-4.019	6.519	-6.184
	(2.577)	(4.895)	(4.513)
Observations	115	115	115
R-squared	0.4190	0.493	0.5139
F-test	8.17		
Prob.(F-stat.)	0.0000		
Number of crossid		5	5
F-test(u_i=0)		17.09	
Prob.>F-(u_i=0)		0.0021	
Chi-square(var(u_i=0))			15.11
Prob.> chi2(var(u_i=0))			0.0000
Hausman test results	Chi2(4) = 11.37		Prob>chi2 = 0.2144

Source: STATA output (2025)

Note: *** p<0.01, ** p<0.05, * p<0.1 denote significant at 1%, 5% and l0% level respectively

As previously noted, the Hausman test results formed the basis for deciding the appropriate model between the two competing models (FE and RE). The results of the Hausman test showed that the probability value (0.2144) of the Chi-square statistic (11.37) is greater than 0.05. This finding necessitates the acceptance of the null hypothesis that the random effects result is appropriate at the 5% significance level. Thus, the interpretation of the results and discussion of findings are based on the estimated random effects model. As observed from the random effects model, the financial access index has a positive and significant effect on FDI inflows to the WAMZ. This finding suggests that increased access to financial services for both individuals and businesses provides the basis for mobilising foreign investments to the WAMZ. This is consistent with the assertion of Grandes & Yeo (2023) that financial integration provides developing and less developed countries opportunities for attracting foreign investments. It also aligns with the findings of Iddrisu, Abor & Banyen (2024) and Nkoa (2018) who reported that financial development played a critical role in attracting FDI to African economies. Similarly, evidence of a positive and significant effect of the financial depth index on FDI inflows was established from the results. This finding indicates that an increased percentage of the financial institutions to GDP is pivotal for attracting FDI to the WAMZ. This follows the understanding that increased financial depth enhances the deepening of the financial system which creates a good signal to mobilising foreign investments. In comparison, the positive financial depth-FDI nexus corroborates the findings of Abusomwan & Izevbigie (2024) and Ines & Odjoumani (2023) who found that improved financial depth is ideal for FDI inflows. In addition, the result shows that the financial efficiency index contributed positively to FDI inflows to the WAMZ. Although this finding is not significant at the 5% level, it suggests that the countries in the WAMZ can attract more FDI to their economies by improving their level of financial development. The R-squared of 0.5139 indicates that the financial development indicators (Financial access, depth and efficiency indexes) jointly account for 51.39% of the total variations in FDI inflows. This finding attests to the statistical reliability of the estimated random effects model. The results further showed that the probability value (0.0000) of the Chi-square statistic (15.11) is less than 0.05, indicating that financial development indicators are jointly significant in explaining changes in FDI inflows in the WAMZ over the study period.

CONCLUDING REMARKS

This study provided valuable insights into the link between financial development and capital inflows in small open economies, focusing on FDI inflows in the WAMZ. This is motivated by the growing recognition that a well-developed financial sector characterised by improved access to financial services and efficient allocation of financial resources plays a critical role in attracting FDI to developing economies including the WAMZ. Thus, the findings showed that the financial access index contributed positively to FDI inflows. This finding is impressive as it highlights the effectiveness of access to financial services in promoting inflows of FDI to the WAMZ. It is also evident from the results that financial depth affected FDI inflows positively during the study period. This finding explains that the deepening of the financial sector through an increased ratio of the private sector credit to GDP has the potential to attract more FDI inflows to the study area. The results further showed that the financial efficiency index is not significant in attracting FDI to the WAMZ. This could be linked to the inefficiency in the allocation of financial resources often associated with underdeveloped financial sectors in each of the countries in the study area. Given the findings, this study concludes that financial development especially financial access and depth are important enablers of FDI inflows to the WAMZ. Thus, this study recommends that the CBN and deposit money banks should increase financial services access to boost the capacity to serve both domestic and foreign investors. It is also important for monetary authorities to deepen the financial sector by ensuring that the ratio of private sector credit to GDP is expanded to provide a good signal for inflows of FDI to the WAMZ.

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