

FINANCIAL DEVELOPMENT AND EXTERNAL DEBT DYNAMICS IN THE ECONOMIC COMMUNITY OF WEST AFRICAN STATES

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Abstract: The rising debt profile of many countries in West Africa has renewed interest in probing how financial development shaped foreign borrowings in six countries in the ECOWAS region (Nigeria, Ghana, Sierra Leone, Niger, Mali, and Senegal). We measured financial development using the financial access, depth, and efficiency indexes and the overall development index of financial institutions. The mean group (MG) was also employed to analyse the panel datasets obtained from the World Bank and International Financial Statistics. The short-run results showed that financial institutions' access and depth positively affected foreign borrowings. This finding also highlights the fact that the countries in the ECOWAS sub-region can leverage financial institution development to increase their access to foreign loans to meet their growing development needs. The long-run results showed that the financial access, depth, and efficiency indexes negatively affected foreign borrowings, but their effects were not significant at the 5% level. However, overall financial development has a positive and significant effect on foreign borrowings eventually. This finding highlights the significant role played by financial institutions in improving countries' borrowing capacity. The error correction coefficient (-0.222) is negative and highly significant at the 1% level, indicating that approximately 22.2% of long-run distortions are corrected annually. Given the findings, we recommend that policymakers should synergise their efforts to ensure the overall development of financial institutions that allow for more access, increased depth, efficiency and stability of financial institutions to provide a good signal for cost-effective borrowings from external sources.

JEL classification: G20, F30, F34, and F36

Keywords: Financial development, foreign borrowings, financial access, financial depth, financial efficiency, and ECOWAS

Introduction

Financial development plays a pivotal role in shaping developing regions' economic trajectories, particularly in the context of external financing strategies such as foreign borrowings. Liu et al. (2020) described financial development as the growth in the availability of financial services to various economic agents within a specific country or region. Essentially, it refers to the creation and expansion of institutions, tools, and markets that foster investment and support growth processes. According to a report from the World Bank (2020), the development of the financial sector primarily focuses on addressing the costs associated with the financial system. The report highlights thematic indices of financial development, including financial depth, access, efficiency, and stability,

as critical elements in the evolution of financial institutions. Consequently, financial markets and intermediaries have emerged to help reduce the costs associated with information, contracting, and exchange. This development, usually assessed by the depth, accessibility, and efficiency of finance-related institutions and markets, has been linked to capital accumulation, improved investment productivity, and the overall economic outlook of regions (Abubakar, 2013).

Current scholarly consensus suggests that financial advancement influences a country's ability to access and utilize foreign loans, and it can be both a facilitator and a hindrance to international capital movements. Rajan and Zingales (1998) contend that well-structured financial systems enhance transparency, increase information availability, and improve risk assessments, which in turn increase a country's credit rating and ability to borrow internationally. This can lead to a decline in the risk evaluation scores and credit ratings of some developing nations. Furthermore, strengthening financial institutions helps lower borrowing costs and boosts market confidence. Efficient financial markets minimize transaction costs and enhance investor confidence, allowing countries and companies to secure favorable terms for overseas funding (Beck *et al.*, 2000).

In SSA, the extent of financial institutions' development has been described as poor compared to the experience of other regions. Both financial markets and financial institutions are less developed in SSA than in other developing regions (Mlachila *et al.*, 2016). In particular, the ECOWAS economic bloc, which comprises 15 countries, has continued to initiate measures to deepen the extent of financial development to create an enabling environment for large capital inflows while increasing the availability of funds to investors at an affordable cost. Iheonu *et al.* (2020) argued that the ECOWAS's financial sector development is low. This raises concerns about the creditworthiness of the region. Given the importance of financial institutions' development and the widespread concerns in extant literature that the ECOWAS lags other developing regions, deepening the understanding of the implications of financial development on external borrowing in the region is imperative. The rest of this paper is organized as follows: Section II provides the relevant literature, while methodology and data are presented in Section III; results and discussion are provided in Section IV, and conclusion and policy implications are provided in Section V.

2. Related Literature

This study is anchored on the McKinnon (1973) and Shaw (1973) financial liberalization hypothesis, which assumes that the liberalization of financial systems through the removal of interest rate ceilings, reduction of capital controls and allowing market-determined rates leads to higher financial savings, higher access to credit and improved access to external finance. In this regard, financial growth is both a driving force and a precursor to liberalization, meaning that countries with efficient, liberalized financial systems are seen as more creditworthy by foreign lenders and investors. This, in turn, boosts their ability to borrow on more favorable terms. Levine (2005) highlights that financial liberalization simplifies the process of mobilizing and allocating capital, enabling households to secure loans for essential services, such as health care. This is particularly crucial in low- and middle-income countries, where formal health insurance is often limited or even absent. Moreover, liberalizing the financial sector encourages interest rate reforms, which boost capital returns and send a positive signal to foreign creditors, enticing them to seek higher yields (Montiel & Reinhart, 2001). It's also argued that financial liberalization facilitates currency convertibility, which in turn strengthens cross-border lending and foreign borrowing, as lenders are less likely to provide capital without it due to repatriation risks (Obstfeld, 1998). Overall, liberalization expands the domestic credit market and increases financial depth, especially the credit-to-

GDP ratio, which is positively related to access to foreign syndicated loans, sovereign bonds and official concessional finance (Kaminsky & Schmukler, 2003).

Empirically, previous studies present mixed evidence regarding the link between financial development and external borrowings in developing countries, particularly in the ECOWAS region. While financial development can help countries to mobilize funds from foreign sources by signaling macroeconomic discipline, low risk, and high return on capital, empirical findings across African nations vary. For instance, studies such as Qadeer and Sarfraz (2025), Ines and Odjoumani (2023), Lestari et al. (2022), Nwosa and Emma-Ebere (2017), Desbordes and Wei (2017), and Gholizadeh Keykanloo et al. (2020) showed that financial development significantly stimulated capital inflows, including foreign direct investment (FDI) and loans to developing economies. However, other studies found that financial development does not affect capital inflows to host countries (Ersoy, 2012; Koepke, 2019). Given the controversies in the empirical literature and the limited attention on the financial development-debt nexus, we contribute to the body of literature by investigating how financial access, debt, and efficiency affect external borrowings in the ECOWAS region.

2.2 Stylized Facts on Foreign Borrowings and Indicators of Financial Development

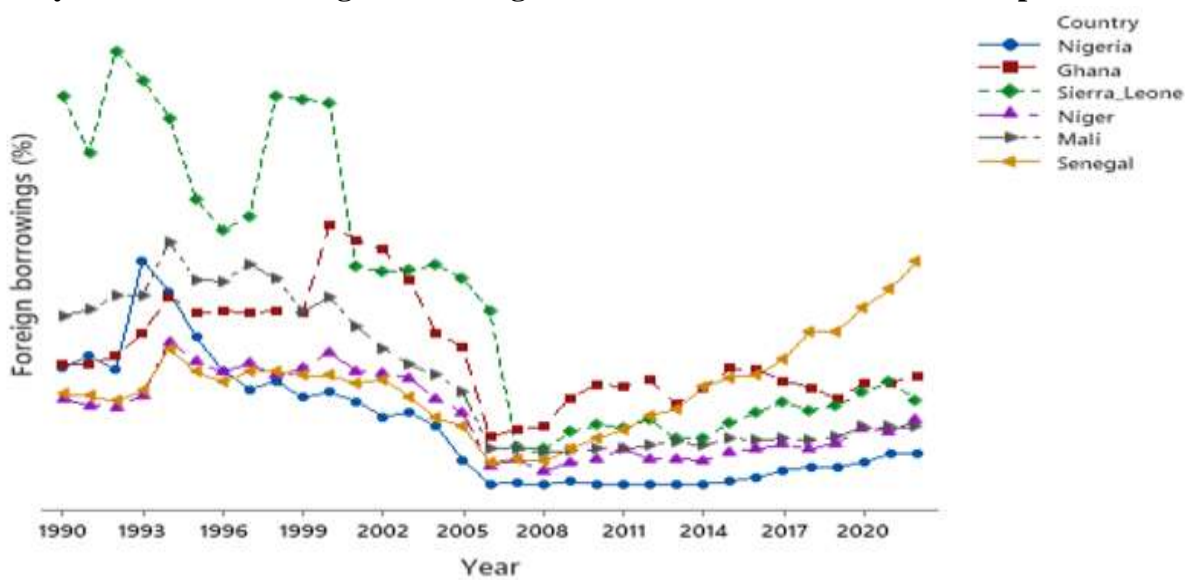


Figure 1: Time series trends of foreign borrowings from 1990 to 2022

Source: Authors' compilation (2025) (2024) based on World Bank and International Financial Statistics data

As observed from the graph, foreign borrowing trends fluctuated during the study. It was found that between 1990 and 2005, Sierra Leone surpassed other countries in terms of foreign borrowings between 1990 and 2005. This could be attributed to the country's high level of fiscal gap, which has triggered its dependence on other foreign loans to meet its expenditure obligations. Similarly, Mali, Ghana, and Nigeria witnessed a similar level of foreign borrowing. This highlights these countries' increasing dependence on foreign debts. The level of foreign borrowings in Nigeria is low compared to the experience of other countries. Foreign borrowings reached a record low in 2006 but increased during 2011-2022. The decrease in foreign low in 2006 could be attributed to the debt forgiveness granted to Nigeria following the government's appeal.

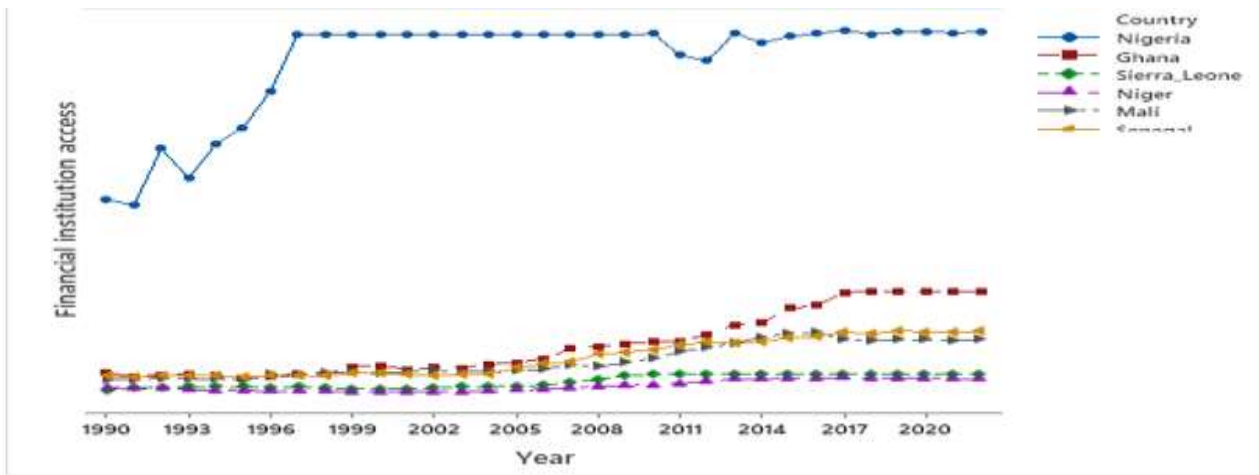


Figure 1: Time series trends of financial access, 1990-2022

Source: Authors’ compilation (2025) (2024) based on World Bank and International Financial Statistics data

The trend showed that Nigeria exceeded the other five countries in terms of financial access. This highlights the growth of credit access for Nigerian businesses and individuals. It further attests to the country’s improved level of financial inclusion. The graphs also show that Ghana is next to Nigeria in terms of financial institution access. This is a pointer to the growth in credit availability in West Africa. The graphs further showed that Sierra Leone, Mali, and Senegal closely followed Ghana in terms of financial access, whereas Niger was the least performing country in terms of financial access. This indicates that credit availability to economic agents in Niger is poor compared with the experience of the other five countries in the investigation.

3. Data and Methodology

3.1 Data Description

This study focused on panel data involving a combination of cross-sectional units and time series. The cross-sectional units include the countries in the ECOWAS sub-region, and the time frame spans 1990–2022. In particular, the financial access index, financial depth index, financial efficiency index, and overall financial development index were used to measure the extent of financial development. The foreign borrowings used in this study are external debt as a percentage of gross national income (GNI). The datasets were obtained from the World Bank World Development Indicators and IMF Financial Statistics.

3.2 Model Specifications

The functional specification of the model is as follows:

$$FBO = f(FAC, FDE, FEE, OFD) \tag{1}$$

Where: FBO = foreign borrowings, FAC = financial access index, FDE = Financial dept index, FEE = Financial efficiency index and OFD = overall financial development index

The pooled regression models are specified as follows:

$$FBO_{it} = \alpha + \beta_1 FAC_{it} + \beta_2 FDE_{it} + \beta_3 FEE_{it} + \beta_4 OFD_{it} + \varepsilon_{it}, \quad i = 1, \dots, N. \quad t = 1, \dots, T \tag{2}$$

Where: α = common intercept, $\beta_1 - \beta_4$ = common slope parameters, ε_{it} = error term, and i = cross-sectional units comprising the ECOWAS sub-region and t = time frame (1995–2022)

The PARDL model is specified as follows:

$$\Delta FBO_{it} = \theta_i [FDI_{i,t-1} - \vartheta_{0i} - \vartheta_{1i} x_{i,t-1}] + \sum_{j=1}^p \varphi_{ij} \Delta FDI_{i,t-j} + \sum_{j=0}^q \delta_{ij} \Delta x_{i,t-j} + \mu_i + v_{it} \tag{3}$$

Where: x = vector of the regressors comprising FAC, FDE, FEE, and OFD as defined previously, ϑ_{0i} and ϑ_{1i} = long run parameters, φ_{ij} and δ_{ij} = short run parameters, p and q = optimal lag orders, θ_i = error correction coefficient, u_i = individual effects and v_{it} = remainder disturbance term.

3.3 Data Analysis Method

The panel autoregressive distributed lag (PARDL) was estimated using the MG estimator proposed by Pesaran and Smith (1995) and the PMG estimator credited to Pesaran, Shin, and Smith (1999). The MG estimator allows the intercept, all coefficients, and error variance to differ across groups. In other words, the MG parameters are the unweighted averages of individual coefficients. Nonetheless, the PMG estimator permits the intercept and short-run coefficients to be different across groups but restricts the long-run coefficients to be the same. Descriptive statistics were used in this study to analyze the distribution of each variable across the individual units over the time dimensions.

4.1 Findings and Discussions

Table 1: Summary statistics of the series

Variable	Observation	Mean	Std. dev.	Minimum value	Maximum value
FBO	198	61.165	44.471	4.95	229.66
FAC	198	.1122	.16324	.0060	.5075
FDE	198	.04459	.0221	.0083	.1116
FEE	198	.52485	.11419	.2372	.8937
OFD	198	.17368	.03903	.0843	.25688

Source: Compilation of authors

Descriptive statistics showed that the average value of foreign borrowings is 61.165%. The results further indicate that the standard deviation is less than the mean values, which suggests that the observations are closer to the mean score. It also explains that the foreign loan needs of the selected ECOWAS countries converged at their average scores, which could be due to the sub-region’s adverse economic development that has precipitated extensive borrowings. The financial access index and financial depth index averaged .1122% and .04459%, respectively. This means that, on average, the depth of financial access exceeded that of the six selected nations in the ECOWAS sub-region. The standard deviation also showed that the depth observations clustered around the mean score. The mean financial efficiency index was 0.52485%, with a minimum of 0.2372% and a maximum of .8937% during the study period. Similarly, the total financial development index for the reviewed period stood at .17368%, and its respective standard deviation of .03903 is less than the mean score, indicating that the observations for financial development on aggregate were near the mean value. This indicates that the selected countries in the ECOWAS sub-region are likely to achieve a comparable financial development magnitude for the study period.

Table 2: Summary of the LLC panel unit root test results

Variable	Level test results	1 st diff. test results	Number of panels used	Order of integration
FBO	0.6065 (0.7279)	-4.8361*** (0.0000)	6	I(1)
FAC	0.6341 (0.7370)	-1.8182** (0.0345)	6	I(1)

FDE	0.5926 (0.2767)	-4.4117*** (0.0000)	6	I(1)
FEE	-1.4808 * (0.0693)	-7.247*** (0.0000)	6	I(1)
OFD	-1.2274 (0.1098)	-6.7871 (0.0000)	6	I(1)

Source: Compilation of authors

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$ denote significant at 1%, 5%, and 10% levels, respectively

The results showed that all variables are not stationary. This is because the probability values of the test statistics for each variable are greater than 0.05. However, the results showed that the variables are stationary at the first difference. Hence, they are integrated in order one, I(1).

Table 3: Results of the Pedroni cointegration test

FBO FAC FDE FEE OFD		
H0: No cointegration. Number of panels = 6		
Ha: All panels are cointegrate (number of periods = 32).		
Co-integrating vector: Panel-specific		
	Statistic	p-value
Modified Phillips–Perron t test	2.9017***	0.0019
Phillips–Perron t	2.2226***	0.0131
Augmented Dickey–Fuller t	2.3518***	0.0093

Source: Source: Authors’ compilation

The probability values of all the test statistics (Modified Phillips–Perron t, Phillips–Perron t, and Augmented Dickey–Fuller t) are less than 0.05. This suggests that the null hypothesis of no co-integration is rejected at the 5% level of significance. Thus, the alternative hypothesis that all panels are co-integrated is accepted. This implies that foreign borrowings have a long-run relationship with the study area’s external debt stocks. This finding is in line with the results of Hauner (2009) and Gonzalez-Aguado (2018), who showed evidence of a long-run relationship between financial development and external debt accumulation in the six selected ECOWAS countries. This suggests that the extent of financial development has a predictable ability to change external borrowings during the study period.

Table 4: Summary of the MG and PMG results

Dependent variable: FBO		
	(1)	(2)
Variables	MG	PMG
Ec	-0.222*** (0.0718)	-0.0101 (0.0371)
D.FAC	2,408** (1,160)	-699.4 (477.9)
D.FDE	1,336*** (482.3)	-360.7 (222.9)
D.FEE	-501.5*	54.53

	(296.0)	(89.49)
D.OFD	1,919*	-216.7
	(1,125)	(265.1)
FAC	-608,380	-7,260
	(609,464)	(6,854)
FDE	-340,768	3,115
	(343,843)	(6,168)
FEE	-296,163	-645.6
	(297,709)	(3,555)
OFD	1175842***	3,903
	(181861)	(13,945)
Constant	33.23	6.335
	(27.58)	(6.880)
Observations	192	192

Source: Source: Authors' compilation

Note: *** p<0.01, ** p<0.05, * p<0.1 denote significant at 1%, 5%, and 10% levels, respectively

Table 4.1: Results of the Hausman test

Variable	MG	PMG	Difference	Std. err.
FAC	-608380.2	-7259.736	-601,120.46	.651947
FDE	-340768.4	3115.45	-343883.85	.0452789
FEE	-296163	-645.6214	-295517.37	.1492561
OFD	1175842	3902.771	1171939.229	1.0815683
chi2(4) = (b-B)'[(V _b -V _B) ⁻¹](b-B) = 17.40				
Prob > chi2 = 0.0416				

Source: Source: Authors' compilation

The Hausman test results presented in Table 3.1 were relied upon in deciding the appropriate model between the MG and PMG estimation methods. As observed from the Hausman test results, the probability value (0.0416) of the chi-square statistic (17.40) is less than 0.05, thus supporting the choice of the MG as the appropriate estimator, which forms the basis for the interpretation. The error correction coefficient (-0.222) is negative and highly significant at the 1% level, indicating that each year, approximately 22.2% of every disequilibrium in the system is corrected to achieve a long-run equilibrium position. This corroborated the fact that foreign borrowings have a long-run relationship with the underlying regressors in the six selected ECOWAS sub-region countries. The MG results showed that the short-run effects of financial institutions' access and depth on foreign borrowings are positive and significant. This finding conforms with the theoretical, thus highlighting the important role of improved financial access and size in enhancing the mobilization of credits to the ECOWAS sub-region's countries. This implies that countries can leverage the depth of financial institutions in terms of private sector credit to GDP, financial institutions' assets to GDP, and broad money supply ratio to GDP to increase their borrowing capacity from foreign sources, thereby boosting their external debt stocks.

The positive contribution of the financial depth index is similar to the findings of Ersoy (2012), who established an interaction between public debt and FTI in the form of unidirectional causation from domestic debt to FTI.

The results also showed that the short-run positive effect of financial institution access on foreign borrowings could be attributed to the growing level of financial inclusion in West Africa. It can also be linked to the short-run effectiveness and development of the credit market in selected countries. This finding is consistent with the results of Gómez, Murcia, and Zamudio (2014), who highlighted the contribution of financial access to foreign debt in developing economies.

In contrast, the short-run effect of financial efficiency on foreign borrowings is negative. This finding deviates from the a priori expectation, indicating that inefficient financial institutions can undermine the ECOWAS sub-region's borrowing capacities. However, overall financial development has a positive and significant effect on foreign borrowings in both the short and long run. This finding conforms to the theoretical expectation and explains that the development of financial institutions in the selected countries is critical for improving the countries' creditworthiness and access to foreign loans. The evidence of a positive effect of overall financial development on foreign borrowings agrees with Abusomwan's (2023) findings, who reported a significant and positive relationship between debt service and financial development in Africa. On the other hand, it contradicts the findings of Kipyego, Njoka, and Muniu (2022), who found that public domestic debt has a significant negative relationship with Kenya's financial development in both the long and short run. The findings imply that the development of the financial system through access to financial services, efficient allocation of financial resources, increased size of financial institutions relative to GDP, and stability of financial institutions are important for increasing the foreign loan access of the ECOWAS sub-region's countries. Therefore, it follows from the results that for countries to boost their external debt stocks, the development of domestic financial institutions should be prioritized.

5. Concluding Remarks

This study examines the link between financial development and foreign borrowings, focusing on how financial access, depth, efficiency, and overall financial development shape the dynamics of public borrowing from external sources. The findings showed that financial depth stimulated foreign borrowings eventually. This suggests that countries in the ECOWAS region can leverage the size of their financial institutions to mobilize from external sources. The results further showed that overall financial development significantly affected foreign borrowings. This finding suggests that collective improvements in financial access, depth, efficiency, and stability improve the creditworthiness of the selected countries. Based on the findings, we recommend that policymakers should synergise their efforts to ensure the overall development of financial institutions that allow for more access, increased depth, efficiency, and stability of financial institutions to provide a good signal for cost-effective borrowings from external sources.

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