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Financial Liberalization and Credit Intermediation: Evidence from Selected Economic Community of West African States (ECOWAS) Member Countries

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Abstract

The paucity of empirical evidences on the financial liberalization-credit growth nexus in the ECOWAS region necessitated the study. The paper empirically investigates the link between financial liberalization and credit intermediation using data that covered the period 2012-2019 for ten selected ECOWAS countries. Utilizing the system-GMM estimation techniques, the findings show a positive link between financial liberalization and credit mobilizing, albeit a weak impact, perhaps due to stringent and complex lending requirements by banks that includes exorbitant lending rate and huge collateral requirements. Growth rate of GDP, lending rate and external resource inflows are positively and significantly related to credit mobilization. Further evidence shows a negative and significant relationship between inflation and credit mobilization. Based on the foregoing findings, it is recommended that continuous reforms of the financial system be encouraged. Growth and external resource inflows- enhancing policies are also imperative, alongside stable macroeconomic environment to enhance efficient credit intermediation in the ECOWAS region.

Keywords: Financial liberalization, Credit Intermediation, Financial Reforms, System-GMM

Introduction

Several developing countries increased the pace of liberalizing their financial system in the 1990s. With the increasing scope and dimension in financial liberalization, many ECOWAS countries like Ghana, Sierra Leone, Nigeria and others, liberalized their financial system in a bid to integrate their financial system with the global financial architecture and deepened the financial system for credit intermediation. Financial liberalization connotes the removal of restrictions and administrative controls on financial markets to allow the free market forces take place (Archy, 2003; Ozekhome, 2021). Beck, Demirgüç-Kunt and Levine (2009) maintained that financial systems across the world deepened along several dimensions, as the standards of financial intermediary and market development increased. Financial liberalization is predicated on the need

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to allow greater interplay of market forces in the allocation of credit, such as undue administrative and government controls are eliminated, giving way for increased savings mobilization, and hence, greater credit (Okpara, 2010; Ozekhome, 2021).

Financial liberalization as a broad aspect of financial reforms is based on interest rates liberalization, bank restructuring and improving bank supervision and liberalization of current and capital accounts. It has been argued that the reforms in the context of the liberalization of financial markets will help broaden and deepen the scope and dimension of financial services, particularly as regard credit channelling (Gibson & Tsakalatos, 1994; Fowowe, 2013). It is expected that with financial liberalization, greater competition and efficiency will be engendered in the financial system, leading to increased savings, efficient and increased credit mobilization and real sector growth (Achy, 2003; Ghosh, 2005). Without doubt, the low spate of financial liberalization and reforms in many developing countries, including ECOWAS, have, contributed to the small, shallow, segmented and fragmented financial systems with limited outreach and financial intermediation prevalent in these economies (Karikari, 2010, cited in Ozekhome, 2021).

Research Problem

In the theoretical literature, there is a strong argument for the possibility of financial liberalization to positively affect financial system and credit intermediation of a country. But experience from several empirical studies across the globe, suggest that international financial liberalization can be a mixed blessing (Bhaduri, 2005). While it is true that liberalization could help countries smoothen consumption and finance productive investment, facilitate technological and managerial transfer, as well as deepening the domestic financial market through portfolio investment and foreign bank lending; DeLong (1998) however argue that financial liberalization involves several risks. For example, excessive inflows of capital could force domestic currency to appreciate and hence, adversely affect the trade balance. For underdeveloped financial systems, it could make them more crisis-prone. For instance, a rapid expansion in bank lending, fuelled by capital inflows, can result in a deterioration of bank financial statement, making them to be more vulnerable to foreign generated financial crises (Calvo et al. 1993). Critics of financial liberalization also argue that it may increase the likelihood of financial crises by encouraging financial institutions to take risks in their lending practices to earn higher returns (Kaufmann, 2000).

In the ECOWAS case, several empirical studies have been carried out in this regard, but also with mixed findings. While several works have examined the impact of financial liberalization on financial assets (see Odhiambo 2005); financial liberalization on the growth of the economy (see Olomola, 1994; Fowowe, 2008; Alege & Ogunrinola, 2008) and financial liberalization on the capital market (see Ogun & Aiyegbusi, 2008) at country-specific level, there is paucity of empirical evidence on the financial liberalization-credit growth nexus in the ECOWAS region.

A crucial question that deserves urgent attention is whether liberalization has actually contributed to credit intermediation and through which channels? Theoretical and empirical literature has not clearly answered this question. Some empirical studies such as Mckinnon (1973), Ozdemir and Erbril (2008), Fowowe (2013) have laid credence to the fact that lifting financial restrictions can exert a positive effect on a country's financial system as interest rates rise toward their competitive market equilibrium and resources are allocated efficiently, capital account liberalization enables domestic firms access cheaper foreign funds and hence, improves performance efficiency of the domestic financial system. Other studies like Bashar and Khan (2007) Zakaria, et al. (2020) argued otherwise. According to them, efficient-markets paradigm shows a different result when applied to the financial sector. They generally rejected the assertion that financial liberalization is a trigger for enhanced economic growth and credit intermediation.

Given these mixed and inconclusive findings on the effects of financial liberalization on credit intermediation, there is therefore a gap to be filled by this study. This study thus, seeks to investigate the financial liberalization-credit growth nexus, using a sample of ten ECOWAS countries. Added to this is the fact that most studies employed regression techniques that could not account for country specificities and heterogeneity. To the best of authors' knowledge, only few studies have used the panel data analysis on this area. By this, the study covers a methodological gap as it uses a technique that is able to account for endogeneity and omitted variable problem. This method was used by Rajan and Zingales' (1998) which allows us to effectively identify the effect of financial liberalization on credit growth while at the same time controlling for most of the other reforms implemented during the period. Again, most of these studies were country-specific studies, but the present study is a cross-country study of ECOWAS. In addition, the findings from this study will help to validate these previous conclusions on financial liberalization-credit intermediation nexus and to ascertain the current position and the extent of the effect of financial liberalization on credit intermediation of selected ECOWAS Countries.

Research Objectives

The study empirically examine the impact of liberalization brought about by financial reforms on credit growth in the ECOWAS region.

Literature Review

Conceptual Issues

Financial liberalization involves letting market forces drive the financial sector, and by so doing, reducing the active participation and regulation of the government. In so doing, the private sector paradigm takes center stage, making issues of efficiency, quality, effectiveness and healthy competition embraced. With increased financial liberalization, financial system is expected to play greater financial intermediation role such that real sector growth and productivity are enhanced through greater credit channeling. Okpara (2010) posits that financial liberalization is characterized by greater scope of market forces in the determination of interest rates, exchange rates, capital accounts and the allocation of credit among others. Financial liberalization is based on the need to improve the depth of the financial system to mobilize more national savings in the form of financial assets that will permit efficient allocation of financial resources for more productive investments.

McKinnon–Shaw (1973) viewed financial liberalization as market-determined interest rates, greater ease of entry into the banking sector to encourage competition, the elimination of directed credit programmes, reduced fiscal dependence of the state on credit from the banking system, the integration of formal and informal markets, movement towards equilibrium exchange rates and, eventually, flexible exchange rate regimes with open capital accounts (Serieux, 2008).

Indicators of Financial Liberalization

The literature distinguishes three broad categories of measuring financial liberalization, namely capital account liberalization, equity market liberalization and banking sector liberalization. In addition to the three above, there are multidimensional measures which combine aspects of the above categories. In general, authors rely on capital account measures as proxies for financial liberalization. Measures of the other categories are used less frequently. Capital account liberalization can be divided into two subcategories, de jure measures which reflect the existence of legal restrictions on international capital transactions. Typically, these measures involve scoring methods where each increment means lowering of restrictions.

Many of these measures use information from the Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER) of the International Monetary Fund (IMF).

On the other hand, de facto measures which refers to actual flows and stocks of capital. The former comprise different types of capital such as FDI (foreign direct investment) plus portfolio flows or total capital flows (Edison, Levine, Ricci & Slok, 2002). Kose, Prasad and Rogoff (2006a) and Prasad, Rogoff, Wie and Kose (2003) advocate the adoption of the related stock data, such as foreign assets and liabilities. The authors opined that stocks are less volatile and less vulnerable to measurement error. Many studies use the database on gross foreign assets and liabilities, which was compiled by Lane and Milesi-Ferretti (2001). Edison et al. (2002) show that for developed countries de jure measures and defacto measures (i.e. those based on the estimated stocks of gross foreign assets and liabilities as a ratio of GDP (gross domestic product) follow very similar patterns over time.

Theoretical Literature

The neoclassical growth models of open economy argues capital flows from capital-rich to capital-scarce economies where the marginal product of capital is higher, leading to increase capital accumulation through greater savings and resource mobilization. In line with their contention, domestic residents who own physical capital stock may obtain part or all of the financing for the stock by issuing bonds to foreigners, which in turn increases the country's speed of convergence to its steady state level of output (Barro, Mankiw &Sala-i-Martin, 1995). In line with this position, greater degree of financial liberalization is expected to generate greater resource mobilization through increased confidence in the banking system brought about by efficient supervision, competition and better utilization of available domestic savings. Financial liberalization engenders efficiency in resource allocation and utilization, removal of distortions such as information asymmetry, moral hazard and herding on the part of foreign investors leading to greater resource availability, savings or total credit for lending Levine, 1997; Levine, Loayza & Beck, 2000; Levine, 2002; Serieux, 2003; Levine, 2004).

McKinnon (1973) and Shaw (1973) opened up the vista into financial liberalization by hypothesizing that in a developing country, especially liberalized interest rate will lead to increase in the real interest rate, and consequently engender increased savings and investments. The original work by McKinnon (1973) and Shaw (1973) concentrated on financial control and the need to ease financial repression through allowing

the market to determine real interest rates, removal of credit control among others. Financial repression, according to McKinnon (1973) and Shaw (1973), lowers savings, reduces investments and growth. Following this, distortions in the market caused by financial repression leads to lower credit (Savanhu, Chinzara & Ezeoha, 2011). In line with McKinnon–Shaw, greater efficiency through the credit allocation, interest rate and credit liberalization and the removal of restrictive financial legislations encourage greater credit supply, investment and growth.

Empirical Review

Horsche (1989) finds a positive link between financial liberalization and credit mobilization in Kenya. Arestis, Demetriades, and Luintel (2001) utilizing evidence from a panel of five countries find positive effect of financial sector liberalization on growth brought about by increased domestic savings and investment based.

Achy (2003) finds a positive link between financial liberalization, savings and lending behaviour of banks. Ozdemir and Erbril (2008), using evidence from 10 new European Union countries and Turkey between 1995 and 2007, based on different measures of financial openness and financial flows such as foreign direct investment, other investments, portfolio investments and trade openness find positive and significant link between liberalization, savings and credit intermediation.

Nair (2004), using evidence from two separate periods on financial liberalization-savings nexus in India finds negative effect of financial liberalization on total credit financial intermediation, due to the fact that the increased credit availability as a result of financial liberalization lead to increase in consumption rather than savings.

Mwigana (2011) analysed the effects of financial sector liberalization on financial performance of commercial banks in Kenya for the period 2008- 2012. The financial liberalization index was calculated for the period 1989- 2012. Utilization cointegration error correction modelling techniques, the findings show that financial liberalization has a positive impact on bank lending capacity.

Odey, Effiong and Nwafor (2017) investigate the relationship between financial liberalization and total credit in Nigeria. They utilized unit root test, co-integration and error correction model on time series data

covering the period 1970 to 2015. Interest rate spread and financial liberalization index were used as measures of financial liberalization, while credit to the private sector as ratio of GDP and number of bank branches as ratio of the population were used to capture financial deepening and financial inclusion respectively. The findings show a positive link between financial deepening and credit in Nigeria.

Other studies that found a positive link between financial liberalization and credit include Laeven (2003); Odhiambo (2005); McDonald and Schumache (2007); NEPAD-OCED (2009); Beck, Demirgüç-Kunt and Levine (2009); Karikari (2009); Khalaf (2011); Usuab, Odozi and Adeniyi (2016); Adeleye et al. (2018) and Ozekhome (2021).

From the review of the pertinent literature, none of the studies has used a comprehensive and weighted index of financial liberalization covering the key dimensions of the institutional changes involved in the liberalization of the financial sector. It is the intention of this study to investigate the impact of financial liberalization on credit by utilizing a more robust and comprehensive measure covering the development and institutional changes involved in the liberalization of financial markets.

Methodology

Model Specification

In empirical specification, the systematic relationship between logistics and trade flows in ECOWAS countries is captured in the stylized logistics-trade model of the form:

$$CRED_{i,t} = f(FLIB_{i,t}, X_{i,t}) \quad (1)$$

where $CRED_{it}$ is the dependent variable, measured here as private sector credit to GDP ratio, FLIB is financial liberalization index- measured as the weighted average of eight progressive and institutional changes in the financial system that captures liberalization; is year fixed specific effect, and X is a vector of additional variables, in line with the literature that influence credit intermediation. These variables include:

LR= Lending rate on loans- measured as prime lending rate

ERF= External resource inflows- measured as the average of net official development assistance and remittances to GDP ratio;

GRGDP= Growth rate of real GDP – measured as growth rate of the economy- a proxy for the size of economic activities;

INF= Inflation rate-a proxy for the macroeconomic environment- measured as changes in the consumer price index.

Taking cognizance of these, the empirical model to capture the financial liberalization-credit growth link in ECOWAS countries is captured as:

$$CRED_{i,t} = \alpha_0 + \alpha_1 FLIB_{i,t} + \alpha_3 LR_{i,t} + \alpha_3 ERF_{i,t} + \alpha_4 GRGDP_{i,t} + \alpha_5 INF_{i,t} + \varepsilon_{i,t} \quad (2)$$

where *i* represents each of the ten sampled ECOWAS countries, namely Nigeria, Ghana, Sierra-Leone, Gambia, Guinea, Guinea-Bissau, Republic of Benin, Burkina Faso, Cape Verde and Cote D'Ivoire for the period 2008-2019.

$\alpha_1 - \alpha_4$ are the parameters to be estimated, and ε is the unobserved error term.

Apriori, α_1, α_2, $\alpha_3 > 0$; $\alpha_4 < 0$.

Estimation Technique

The estimation is done using the system-GMM estimation technique, capable of addressing the problems of endogeneity, omitted variables bias and measurement error. The fact that lagged endogenous variable is endogenous to the error term using appropriate instruments makes the system- GMM appropriate for this study. The technique developed by Arellano and Bond (1991) and Arellano and Bover (1995) and Blundell and Bond (1998) overcomes the problem of unobserved period and country specific effects and simultaneous/ reverse causation among variables.

Data

The study utilizes panel data covering the period 2012-2019 for the ten selected ECOWAS countries based on data availability. The selected countries are Benin, Burkina Faso, Cape Verde, Cote D'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Nigeria and Sierra-Leone, all of which are members of the Economic Community of West African States (ECOWAS), a regional economic grouping of 15 countries formed to accelerate the economic integration, industrialization and economic development of participating member countries.

Results and Discussions

Descriptive Statistics

Table 1 presents the descriptive statistics of the data on the variables used for the analysis. Average credit to the private sector to GDP- a measure of credit intermediation is 12.73 percent, with a median value of 11.94, implying a dissimilar level of credit intermediation among the sampled ECOWAS countries. The maximum and minimum values are 25.78 and 4.22 percent, respectively. The standard deviation is 3.30 percent. The mean value of financial liberalization is 7.25 and the median value is 7.00. Thus, the sampled ECOWAS countries are at different levels of financial liberalization. The maximum and minimum values are 8.0 and 0, with a standard deviation of 2.16-which is a measure of the level of dispersion. The mean value of lending rate on loans is 23.24 percent, with a maximum and minimum values of 42.5 and 5.40 percent, respectively. The corresponding average values for external final inflow of resources, growth rate of real GDP and inflation rate are 15.3 percent, 4.62 percent and 12.1 percent, respectively.

Table 1: Descriptive Statistics

	Mean	Median	Max.	Min.	Std. Dev.
CRED	12.73	11.94	25.78	4.22	3.30
FLIB	7.25	7.00	8.00	0.00	2.16
LR	23.24	21.75	42.23	5.20	4.22
EFR	15.26	14.90	22.25	3.25	4.73
GRGDP	4.62	5.25	8.85	-1.16	5.28
INF	12.06	12.75	28.50	3.16	4.62

Correlation Analysis

Table 2 presents the results of the correlation analysis. From the correlation matrix, a positive correlation is observed between credit intermediation and four of the explanatory variables, implying a positive co-movement among the variables. Invariably, increases in financial liberalization, lending rate, external resource inflows and growth rate of the economy tend to stimulate credit growth in ECOWAS countries.

Table 2: Correlation Matrix

	CRED	***FLIB***	***LR***	***ERF***	***GRGDP***	***INF***
CRED	-					
FLIB	0.20	-				
LR	-0.25	0.16	-			
ERFI	0.31	0.12	0.27	-		
GRGDP	0.19	0.23	0.23	0.17	0.11	-
INF	-0.15	0.13	0.12	0.09	0.20	0.13

Main Results

The result of the Arellano and Bover (1995), Blundell and Bond (1998) system-GMM is reported in Table 3. The coefficient of the lagged credit intermediation variable is negatively related to current credit, but fails the significance test. This implies that previous level of credit channeling is not significantly related to current or future level of credit mobilization, as financial institutions tend to follow an asymmetric pattern in credit channelling, not based on experiences.

The coefficient of the financial liberalization index variable is positively signed in line with theoretical expectation and significant but fails the significance test. Since the t-ratio is greater than unity, it can be concluded that financial liberalization positively influences credit intermediation in the ECOWAS countries but the impact is weak. The impact could be due to the stringent and complex lending requirements by banks that includes exorbitant lending rates and huge collateral requirements. This finding supports the findings of Horsche (1989) and Adeleye et al (2018). Based on the result, a 10 percent increase in the level of financial liberalization stimulates credit mobilization of ECOWAS member states by 1.8 percent.

Table 3: Results of the GMM Estimation

Variable	System-GMM
CRED(-1)	-0.1841 (-1.244)
FLIB	0.1814 (1.344)
LR	0.072** (2.153)
EFR	0.2124** (2.2316)
GRGDP	0.2520** (2.307)
INF	-0.0621** (2.056)
Post-Diagnostics:	
Instrument Count	5
J-Stat	2.53 (0.57)
AR(1) AR(2)	-3.06 (0.000) -0.46 (0.33)

***** Statistical significance at the 1% level: ** Statistical significance at the 5 % level; * Statistical significance at the 10% level; T-values in Parenthesis**

The coefficient of interest rate (lending rate) is positively signed and significant at the 5 percent level. Thus, increased interest rate encourages greater resource mobilization in the form of savings and credit resources and thus enhances credit intermediation in line with the Mckinnon-Shaw hypothesis. This finding supports the results of Achy (2003) and Seriux (2008).

The coefficient of the external inflow of resources- the average of financial development assistance and remittances is positively signed and variable in line with theoretical expectation and passes the significance test at the 5 percent level. Thus, increases in the inflow of external resources stimulate credit intermediation since it makes a pool of lending resources available. This finding supports the results of Ozekhome (2021). In line with the results, a 10 percent increase in external inflow of resources leads to a 2.1 percent increase in credit mobilization in the ECOWAS region.

The coefficient of growth rate of real GDP is negatively signed and statistically significant at the 5 percent level of significance. Thus, improved economic growth rate in terms of greater economic activities tend to

encourage higher level of credit mobilization and intermediation, since such improvement in economic activities would imply greater level of investment and entrepreneurship activities that will necessitate greater level of credit, for which financial institutions will oblige in expectation of greater returns. The result supports the finding of NEPAD-OCED (2009). The coefficient indicates that a 10 percent increase in economic growth rate engenders credit growth in ECOWAS by 2.5 percent. Finally, the coefficient of the inflation variable- a measure of the macroeconomic stability is negatively signed and significant at the 5 percent level of significance. This implies that high inflation rate – characteristic of macroeconomic instability depresses credit intermediation in ECOWAS. This finding supports the findings of Karikari (2010). Based on the results, a 10 percent rise in inflation rate decreases credit growth in ECOWAS by 0.62.

In terms of the robustness of the results obtained, the Hansen-J over-identification test, failed to reject the null hypothesis of no endogeneity problem. The over-identifying restrictions, are therefore, equal to zero. The instruments are therefore appropriate and valid. The post-estimation evidence also leads to the rejection of the null hypothesis of no serial correlation at order one in the first-difference errors, but a failure to reject same at order two (with AR (1) = -3.06 (0.000)*** and AR (2) = -0.46 (0.33). The model is therefore, fit for structural and policy analysis.

Conclusions and Recommendations

The paper has examined the link between financial liberalization (with other control variables) and credit intermediation in the ECOWAS sub-region, using evidence for ten selected countries over the sample period 2012-2019. Employing, the GMM estimation approach, the empirical results show a positive but weak relationship between financial liberalization and credit mobilization in the ECOWAS region. External financial resource inflows and growth rate of real GDP- a measure of economic growth are positively and significantly related to credit mobilization in the region. Inflation rate- an indicator of macroeconomic stability, on the other hand has a negative and significant impact on credit mobilization.

Based on the empirical findings, policy efforts to encourage greater financial sector reforms, particularly those that will deepen the financial sector against the backdrop of financial liberalization should be put in place. Such policies will stabilize the financial system, make it more credible and confident for credit channelling. Efforts to attract greater external financial resource inflows through appropriate policies and

frameworks are imperative. Growth –enhancing and stable macroeconomic policies are also important to credit intermediation in the ECOWAS region.

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