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1 February 2021

Online at <https://mpa.ub.uni-muenchen.de/115183/>
MPRA Paper No. 115183, posted 27 Oct 2022 13:27 UTC

Financial Inclusion and Economic Growth in West Africa: The Moderating Effect of Financial Openness

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Abstract

This paper examines the impact of financial inclusion on economic growth in the Economic Community of West African States (ECOWAS) countries. The study also investigates how financial inclusion through financial openness enhances growth. Applying the pooled estimated generalized least squares (EGLS) technique with data from 10 countries in ECOWAS over the period 2010-2017, the results reveal that financial inclusion exerts a positive significant influence on economic growth through its direct effect and via financial openness. The findings also show that while inflation reduces growth, trade openness and foreign direct investment significantly stimulate economic growth in ECOWAS. The study emphasizes the need for greater efforts to address the challenges involved in accessing financial services as one of the most effective ways of realizing inclusive growth.

Keywords: Financial inclusion, Economic growth, Pooled EGLS, ECOWAS

JEL Classification: G21, O40, O43

1.0 Introduction

In the Economic Community of West African States (ECOWAS) countries, the financial systems are made up of formal and informal financial systems. The formal financial sector encompasses central banks, banking, and non-banking financial institutions. The banking institutions comprise of commercial banks, development banks, cooperative, and savings and loan companies. Other financial institutions in operation include finance, leasing, and insurance companies. Commercial banks dominate the financial system holding the largest share of assets of the overall financial system (Atindéhou et al., 2005).

For the past years, most countries in the ECOWAS have experienced significant improvements in financial inclusion driven mainly by mobile money services serving as a key platform for providing financial services (Balele, 2019). The increasing patronage of non-bank financial services is prominent. The driving force behind these improvements has been financial technology innovation. The enhanced financial technology has contributed immensely to mitigating geographical barriers to accessing financial services, especially for rural communities. Similarly, the growth in financial technology has enhanced non-paper works (for instance, bank accounts opening) associated with the brick and mortar banking system in providing financial services.

Despite the glaring scene of financial inclusion motivated by the adoption of financial technology by countries in the ECOWAS region and other developing countries, there are still some inhibiting factors. Notable include financial illiteracy, low rate of savings, and high lending rates. Nevertheless, financial inclusion is argued to contribute to economic well-being in developing economies (Shetty, 2008).

Interestingly, following the Maya Declaration on financial inclusion for the unbanked in 2011, financial inclusion has become a focal point of interest for researchers and policymakers given its perceived link with economic growth. However, the empirical evidence on the financial inclusion-economic growth nexus is still scanty in the literature. Hence, further research efforts are required. Among the few studies, Angadi (2003), Mehrotra et al. (2009), Ghosh (2012), Babajide et al. (2015), and Sharma (2016) have examined the impact of financial inclusion on economic growth for individual countries. At the panel level, studies such as Wong (2015), Inoue and Hamori (2016), Kim et al. (2018), Sethi and Acharya (2018), and Balele (2019) are notable. A major limitation of most of the earlier studies relates to how financial inclusion is measured. Variables like bank accounts per thousand adults, number of ATMs, number of borrowers, number of commercial bank depositors, and banking outlets have been singly used to proxy financial inclusion. Employing single measures however can be biased and misleading (Sarma, 2008). Hence, this study uses a financial inclusion index that captures different commercial banks' services and activities.

This paper contributes to the financial inclusion-economic growth nexus in three ways. First, a financial inclusion index is created relying on different individual measures of financial inclusion. This allows a comprehensive examination of the impact of financial inclusion on growth. Second, the study investigates the indirect effect of financial inclusion on growth by introducing financial openness as a potential channel through which financial inclusion affects economic growth. One can argue that financial openness improves innovation in providing financial services to both individuals who already have access to these services and also to the marginalized and the poor. Aside from these, to the best of the authors' knowledge, no empirical study has investigated the link between financial inclusion and economic growth with specific reference to ECOWAS. Thus, this paper is the potential first study to address this subject matter for this sub-region of Africa.

2.0 Literature Review

Following Schumpeter's (1961) seminal work, the finance-growth nexus has been a topical issue. According to Schumpeter, finance enhances growth. Through its services, the financial sector boosts innovation and encourages investments which leads to growth. For Patrick (1966), the finance-growth link can be examined in the perspectives of the supply-leading hypothesis and demand-following hypothesis. The central argument of the supply-leading hypothesis is that financial deepening drives economic growth supporting Schumpeter's (1961) view. It assumes

that the growth of the financial sector results in an efficient allocation of resources. The hypothesis further posits that a well-developed and stable financial sector creates financial institutions and provides innovative financial services in advance of their demand. Alternatively, the demand-following hypothesis suggests that financial sector development is motivated by real output growth. It presumes that economic growth induces the demand for financial services which calls for the establishment of financial institutions to provide services to meet the rising demand (Demetriades and Hussein, 1996).

In the literature, the effect of financial inclusion on economic growth has been investigated using different dimensions of financial inclusion. For instance, Mehrotra et al. (2009) noted that access to banking services allows people to save in formal financial institutions. This increases banks' deposit, and inclusive growth is enhanced via the multiplier effect. Employing the panel cointegration test on a panel data spanning 1981-2002, Acharya et al. (2009) showed that a long-run cointegration exists between credit growth and economic growth for Indian states. In Malawi, Brune et al. (2011) revealed that financial access in the form of savings accounts improves the well-being of the poor. Ghosh (2011) examined how financial outreach influences economic growth in some selected major states in India for the period 1973-2004. The study established that per capita growth for the selected states is directly impacted by improvements in financial outreach. In a panel study, Kpodar and Andrianaivo (2011) posited that through greater financial inclusion, mobile phone penetration

enhances the economic growth of African countries. Diniz et al. (2012) examined the factors triggering financial inclusion and how it affects growth in Autazes. They found that financial service delivery through banking correspondents positively enhance socio-economic growth. Bruhn and Love (2014) found that access to financial services impacts positively on the level of income of the poor in Mexico. Similarly, Park and Mercado (2015) evidenced that financial inclusion improves income level and significantly reduces poverty in Asian countries. With different dimensions of financial inclusion and by applying the vector auto-regression technique, Sharma (2016) revealed that banking penetration, banking services availability, and usage of financial services positively drive economic growth. In a more recent study, Sethi and Acharya (2018) noted that both demand and supply-side indicators of financial inclusion have a long-term positive effect on economic growth in both developed and developing economies. Similar evidence is documented by Sethi and Sethy (2019) in the case of India.

3.0 Methodology

3.1 Data and Variables

To achieve the objective of the study, the paper employs annual data spanning 2010-2017 from the Financial Access Survey of the International Monetary Fund and World Development Indicators (WDI) of the World Bank. The study considers 10 countries out of 15 member countries of the

ECOWAS. The choice of these countries and the period is entirely based on complete data availability.

Gross Domestic Product (GDP) per capita growth is employed as a measure of economic growth serving as the dependent variable. Financial inclusion is the main independent variable. An index of financial inclusion (FINDEX) is constructed based on different sub-indicators reflecting accessibility and usage of financial services. To create the financial inclusion index, the study applies the principal component analysis (PCA) by taking the principal components of the sub-indicators. These indicators include the number of ATMs per 1000 km², the number of ATMs per 100,000 adults, the number of commercial bank branches per 100,000 adults, and outstanding loans from commercial banks (percentage of GDP). Data for these sub-indicators are sourced from the Financial Access Survey of the International Monetary Fund.

In addition to financial inclusion, the study controls for the effect of trade openness (TOP), financial openness (FOP), foreign direct investment (FDI), and inflation (INF) on economic growth. Trade openness (TOP) is the sum of exports and imports of goods divided by GDP. Financial openness (FOP) is measured by the KAOPEN index by Chinn and Ito. Foreign direct investment (FDI) is proxied by the net inflows of FDI expressed as a percentage of GDP, while inflation (INF) is explained by consumer prices (annual percentage change).

3.2 Model Specification and Estimation Method

This study takes a panel approach that involves pooling observations on a cross-section of units over several periods. The panel data model can be generally specified as:

$$Y_{it} = \alpha + \beta'X_{it} + \varepsilon_{it} \quad (1)$$

From the model, the subscript i signifies the cross-sectional dimension. t represents the time-series dimension. Y and X denote the dependent and the explanatory variables respectively. α is constant. The vector coefficients are connoted by β and ε is the error term.

To examine the direct effect of financial inclusion on economic growth while controlling for the other factors, the model can be further expanded as:

$$\text{gdp}_{it} = \alpha_0 + \beta_1 \text{findex}_{it} + \beta_2 \text{top}_{it} + \beta_3 \text{fop}_{it} + \beta_4 \text{fdi}_{it} + \beta_5 \text{inf}_{it} + \varepsilon_{it} \quad (2)$$

In analyzing the interactive effect of financial inclusion and financial openness, the model is specified as:

$$\text{gdp}_{it} = \alpha_0 + \beta_1 \text{findex}_{it} + \beta_2 \text{top}_{it} + \beta_3 \text{fop}_{it} + \beta_4 \text{fdi}_{it} + \beta_5 \text{inf}_{it} + \beta_6 \text{findex} * \text{fop}_{it} + \varepsilon_{it} \quad (3)$$

where all the proxies are previously defined. β_1 to β_6 are the coefficients.

To investigate the impact of the independent factors on economic growth, the pooled estimated generalized least squares (EGLS) with cross-section weights is employed. A major advantage of this technique is that, in estimating the model coefficients, it considers cross-sectional heteroscedasticity. Also, the standard errors produced by this technique are

robust to serial correlation. Compared to the ordinary least squares, the EGLS is regarded as more efficient (Verbeek, 2004).

4.0 Empirical Results

4.1 Descriptive Statistics

Table 1 presents the descriptive statistics for all the variables. GDP per capita growth is averaged at 2.597%. This shows a low growth rate and affirms the lower income level of the sampled countries. The composite index of financial inclusion has a mean of 0.037 with a minimum value of -1.952 and a maximum value of 4.273. Trade openness shows a mean of 66.491% with the highest standard deviation. The descriptive statistics in overall indicates high volatility of the variables given their low average values relative to their standard deviations, except for trade openness.

Table 1. Descriptive Statistics

<i>Variables</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Minimum</i>	<i>Maximum</i>
<i>gdp</i>	2.597	2.915	-6.641	11.315
<i>findex</i>	0.037	1.560	-1.952	4.273
<i>top</i>	66.491	20.080	20.723	118.102
<i>fop</i>	-1.276	0.343	-1.917	-0.635
<i>fdi</i>	3.943	4.152	-1.048	18.818
<i>inf</i>	4.581	5.633	-1.800	21.350

4.2 Correlation and Multicollinearity Analysis

The Pearson correlation analysis is reported in Table 2. For variables to be free from multicollinearity, Kennedy (2003) recommends that the correlation coefficients must not exceed 0.80. Based on this threshold, the analysis shows that the variables are weakly correlated, hence no multicollinearity issues. This is further justified by the results of the variance inflation factor (VIF) analysis.

Table 2. Correlation Analysis

<i>Variables</i>	<i>findex</i>	<i>top</i>	<i>fop</i>	<i>fdi</i>	<i>inf</i>
<i>findex</i>	1.000				
<i>top</i>	-0.410	1.000			
<i>fop</i>	0.379	-0.539	1.000		
<i>fdi</i>	-0.271	0.340	-0.301	1.000	
<i>inf</i>	0.474	-0.033	-0.319	0.157	1.000
<i>VIF</i>	2.39	1.61	2.30	1.28	2.27
<i>Tolerance</i>	0.418	0.620	0.435	0.781	0.440

4.3 Regression Results

The Pooled EGLS estimates on the impact of financial inclusion and the control factors on economic growth are shown in Table 3. The R² values in Model 1 and Model 2 indicate that the explanatory factors predict only 22.6% and 27.8% variations in economic growth respectively. The probability values of the F-statistic show the overall significance of the models.

Table 3. Pooled EGLS estimation results

<i>Variables</i>	<i>Model 1</i>	<i>Model 2</i>
<i>findex</i>	0.353**	1.495***

	(0.010)	(0.000)
<i>top</i>	0.034***	0.036***
	(0.000)	(0.000)
<i>fop</i>	-1.698	-3.011**
	(0.190)	(0.052)
<i>fdi</i>	0.118*	0.146**
	(0.095)	(0.033)
<i>inf</i>	-0.087	-0.183***
	(0.146)	(0.009)
<i>findex*fop</i>		0.815***
		(0.000)
<i>c</i>	-2.006	-3.736**
	(0.167)	(0.031)
<hr/> <i>Diagnostics</i> <hr/>		
R ²	0.226	0.278
Adj. R ²	0.174	0.219
F-statistic	4.324	4.696
Prob.(F-statistic)	[0.000]	[0.000]
Durbin-Watson stat	1.413	1.446
Wald test, χ^2	21.277	142.898
Prob. (χ^2)	[0.000]	[0.000]

Notes: *, ** and *** denote significance at 10%, 5% and 1% respectively. Values in () and [] are standard errors and *p*-values respectively.

In Model 1, the direct impact of financial inclusion on economic growth is outlined. The findings establish a positive significant effect of financial inclusion on economic growth. The result shows that as financial inclusion improves by a percentage, per capita GDP increases by 0.353%. Given the dimensions of financial inclusion, it can be inferred that the availability and accessibility of financial services improve the living standard of individuals

and overall economic growth in ECOWAS countries. The finding provides support for the supply-leading hypothesis.

The results suggest a positive significant effect of trade openness on economic growth. A percentage increase in trade triggers a 0.034% growth in per capita GDP. This finding is in line with prior studies (Das and Paul, 2011; Nowbutsing, 2014; Kim et al., 2016; Keho, 2017). The result however is contrary to the ‘Spaghetti Bowl’ effect, which hypothesizes that trade is detrimental to economic growth as domestic firms are prone to the unavoidable cost imposed by trade (Bhagwati, 1995).

FDI has a positive significant effect on economic growth at 10% level of significance implying that FDI inflows stimulate growth in ECOWAS countries. This finding is not surprising given the significant role FDI plays in developing countries. Due to inadequate domestic investments, FDI always serves as an external financing mechanism for most developing economies. Likewise, FDI provides several benefits in the form of employment, transfer of capital and technology as well as encourages exports which are vital for economic growth. The result largely confirms some previous studies (John, 2016; Sunde, 2017; Dinh et al., 2019).

The study finds that financial openness and inflation do not significantly enhance economic growth.

Turning to Model 2, the interactive effect of financial inclusion and financial openness on economic growth is examined. Interestingly, similar to Model 1, all the variables maintain their respective signs when financial

openness and financial inclusion are allowed to interact in Model 2. Also, financial openness and inflation become significant though with negative coefficients. It can be observed that financial openness on its own does not impact positively on economic growth. However, financial openness through financial inclusion exerts a positive significant effect on growth. The implication is that openness to global capital markets by countries in the ECOWAS does not positively stimulate growth. To achieve economic growth, financial openness must be coupled with the availability and accessibility of financial services by the marginalized and the poor.

5.0 Conclusion and Recommendations

Financial inclusion has become a focal point of interest for researchers and policymakers in recent years. While attempts have been made to recognize the effect of financial inclusion on economic growth, the empirical evidence seems inadequate in the African context. This paper examines the impact of financial inclusion on economic growth in the Economic Community of West African States (ECOWAS). Controlling for other factors, the study examines the direct effect of financial inclusion on growth and how financial inclusion through financial openness influences growth. Results from the pooled estimated generalized least squares (EGLS) technique show that financial inclusion significantly enhances economic growth through its direct impact and its interaction with financial openness. The findings also establish that foreign direct investment and

trade openness positively and significantly drive growth, whereas inflation is harmful to economic growth in ECOWAS.

For policy relevance, the study recommends that policies that are geared towards reforming the financial sector are imperative for reaping long-term economic growth. Also, to achieve inclusive growth, greater efforts are needed to address the challenges involved in access to financial services, especially for the rural dwellers. This will help to reduce poverty and income inequality. A limitation of the study is that institutional factors that may influence countries' efforts towards financial inclusion are not controlled for in the analysis. It will be interesting for further studies to consider such factors.

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