Market-Based and Bank-Based Financial Structure on Economic Growth in Some Selected Ecowas Countries

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Abstract

There has been a lot of debate as to which of the financial system or structure promotes Economic Growth in an economy. In this sense policy makers have debated the relative merit of bank based and market based in affecting economic growth in the economy. This paper therefore examines the impact of financial structure on economic growth of some selected ECOWAS Countries, Relying on model developed by Levine (2002], Olofin and Udoma (2008), we specified a macro econometrics model to examine the relationship between financial structure variables and growth variable. The paper provides a useful contribution in the relationship between financial system and Economic growth in these selected ECOWAS countries. Based on the long-run and short-run estimate, it was concluded that some of the countries are Bank based financial systems while other are market based financial systems, and that financial structure matter for Growth of these economies.

INTRODUCTION

In literatures there are lots of evidence that financial systems directly influence long-run economic growth and development in most countries. Arestic Luintel and luintel (2004), Olofin and Udoma (2008). But in developing countries, especially these of the Sub-Saharan Africa, financial structure has overtime remain weak and a serious cause for concern by policymakers. Equally of concern is whether it matter for growth if the financial system is market or bank based. From empirical literature, efforts have been made whether one type of financial system better explains economic growth than another; Arestic and Luintel (2004).

It should be mention that; most empirical literatures on financial structure and economic growth have been centered on developed countries, as such is common to refer to United State of America and United Kingdom as market-based economies while Japan and Germany as Bank-based economies. Hence, studies such as Mork and Nawkanura, (1999), Weinstein and Vafet (1998) conclude that financial structure matters. However arising from cross-country studies on financial structure by Levine (1997), (2002) and (2003), Beek and Levine (2002), they find that financial structure is irrelevant to economic growth. Neither bank nor market-based financial structure can explain growth, but rather is the overall provision of financial services both in banks arid capital market taken together that affect growth. In this sense instead of Bank and Market substituting each other, it rather performance a complementary role on economic growth,

Empirical studies on financial structure in most developing countries

especially in ECOWAS Countries are Scanty and almost non-existing. But the financial structure of these countries is expanding both in size and depth see for detail Iganiga (2008) Isedu (2007). The financial systems of these countries can be divided into two broad categories namely, the formal and informal sectors.

The formal sector is regulated by governmental institutions such as Central Banks, Ministry of Finance, Securities and Exchange Commission, etc, The informal sectors are non regulated sector which comprises; local money lenders, thrift, saving association etc. The exact size and influences of this sector on the society remain unknown. It is on the basis of these characteristics i.e. dual financial system, that some selected countries in ECOWAS were made.

This study therefore examines the influence of financial system on economic growth in these countries. More specifically to determine whether they are bank or market-based financial system. In an attempt to meet these objectives, the study utilizes aggregate annual time series data of each country from 1976-2008 from the International Financial Statistics. It equally developed a macro econometric model that captures the interrelationship between financial structure variables and economic growth.

Following this introduction is theoretical and literature review in Section II while section III presents the methods and materials. Estimation and discussions of results are presented in Section IV. Section V concludes the study.

THEORETICAL AND LITERATURE REVIEW

It is generally recognized that financial systems contribute to high long-run economic growth. However, there is a debate as to whether some financial structures are more efficient than others in allocating saving to investment, Prominent among these views are intermediation growth theory and market based economic growth theory, however, some analyst Levine (2002), Beck and Levine (2002) are of the view that a well developed financial systems whether banks or market based is all there is to development. In particular, well developed financial intermediaries and well functioning markets can generate growth by improving the effectiveness and efficiency with which savings are used and increasing 'the amount of funds allocated to firms for investment.

According to the "Intermediary-Based" banks are more growth enhancing than market at the early stages of economic growth and development Prominent among these views are the works of Frank (1996), Corton (199-5;), Singh (1997). In fact these authors are of the view that financial intermediaries are also vital participant in market. They specifically contribute to effective functioning of the market by providing liquidity which is essential in transaction and in critical time of crisis. The bank-based view, also stresses the short coming of market based systems by asserting that it reveals information publicly, thereby reducing incentives for investors to seek

and acquire information Boyd Prescott (1986). Thus, distortive that emirate from asymmetric information can be alleviated by banks through forming long-run relationships-with firms and through monitoring. As a result of this, bank based arrangement can produce better improvement in resource allocation and corporate governance than market-based institutions Stiglitz (1995), Blide (1993).

On the contrary, the market based view the market as more suited than banks to finance innovative and high risk project Rajan (1998). The market based theory undercounts the relevance of well-functioning markets in terms of big liquid and risk takings. Well functioning market promotes growth and enhance cooperate profit through enhance governances and risk management Hellwig (1998;), To these researchers, bank based systems may involve intermediaries with huge influence over firms and this influence then manifest itself in negative ways like high rent taking in-firm. This is because banks now have access to inside information about firms. Also in terms of new investments or debt renegotiations, banks with power can extract more of the expected future profit than market base system Hellwig (1998). This ability of banks to extract part of the expected profit of firm has reduced the effort of firm to undertake innovation and increase efficiency Rajan (1998).

A third theory that deemphasized bank-based and market based as substitutable financial system in an economy view the bank and market based system as complementary and that both financial structure matter for growth. According this theorist, it is the financial services themselves that are by far more important than the Form of their delivery (World Bank, 2001). The issue is not the source of financial structure but rather the financial services provided by both bank based and market based system. The emphasis is on the creation of a functioning efficient sound bank and market rather than on the financial structure for details see Boyd and South (1998), Demirguc-Kunt and Levine (2001).

From empirical literatures studies had been carried out on whether bank-based or market-based financial system matters for growth. These studies are largely based on developed economies structure which will only provide a reference point to developing countries and this point is only speculative when it comes to policy issues in developing countries. However, studies of the USA and United Kingdom by Wenger and Waserer (1998) concentrated on the role of market based and bank based system on corporate control devices came to the conclusion that market based is favourably disposed to corporate control devices than Banks. On the contrary researches such as Stiglitz (1985), Singh (1997) are of the view in their studies that bank-based financial structure better explain growth than market based system. However, the World Bank (2001) provides a comprehensive summary of the available evidence, which also reaches a conclusion that both developments of banking and of market finance help economic growth. Each can complement the other for effective growth of income.

METHODOLOGY AND DATA

Data Sources and Measurement: Data for this study are in annual frequency and they were sourced from International Financial Statistics (IPS) and Annual Report of Security and Exchange Commissions of various countries. The scope ranges from 1976 to 2008. The choice of this period is mainly due to data availability. Data utilized in this study include stock market variables and Banking sector variables.

Table 1
Data Employed and Measurement

RGDP	Real Growth of Gross domestic product
FS	Financial structure defined as the stock market capitalization ratio over banks' credit to private sector ratio
BC	Ratio of Banking sector domestic credit to GDP
Id	Domestic Investment
KM	As stock market capitalization as a percentage of GDP
M2	Broad money supply

Model Specification: We develop a small macro econometric model of the following form to capture the interaction between real growth of gross domestic product and financial sector variables:

$$\text{Log (RGDP)} = \alpha_o + \alpha_1 \text{ Log FS} + \alpha_2 \text{ Log BC} + \alpha_3 \text{ Log Id} + \alpha_4 \text{ Log KM} + \alpha_5 \text{ LogM}_2 + \text{Ut} \quad (1)$$

The above equation (1) follows the approach of Levine (2000) and (2002), Olofm and Udoma (2008). Levine models contain financial service variables but because of the under developed financial structure of ECOWAS States we ignore that variable. The variables apriori or presumptive signs are stated as follows;

$$\alpha^2, \alpha_3, \alpha_4, \alpha_5, \alpha_6 > 0$$
$$\alpha_i > < 0; \text{ dut} = 0$$

Following the above specification, it is assumed that an increase ii the ratio of Banking credit to Gross domestic product will lead to an increase in real growth of Gross domestic product. This is evidence in works of Olofii and Udoma, (2008). Financial size measure by the ratio of capital market capitalization to GDP is directly related to Real growth of Gross domestic product.

This is found in the empirical estimation of Levine (2002). All other variables are directly related to RGDP except FS that are ambiguously define. The bank based believed that $\alpha_1 < 0$ while market based believe that $\alpha_1 > 0$. In addition to this view, this study will test the significant level of these variables. The level of significant

shows that financial structure matters for growth.

However, higher value of the coefficient shows that it is a market based system, while lower values of the coefficient indicate that it is a bank based system. This is evident in the works of Levine (2000).

Techniques of Analysis: This study employs the Unrestricted Error Correction Model (UEGCM) which follows the order of Autoregressive Distributed Lag (ARDL) proposed by Pesaran *et-al,* (2001). Pesaran proposed an ARDL bounds test to investigate the existence of co integration relationship among variables. This test approach appears to have gained popularity in recent times because both long and short-run parameters of the specified model can be estimated simultaneously and the approach is applicable irrespective of the order of integration i.e. whether the variables are 1 (0), purely 1(1) or fractionally integrated.

(ARDL) specification of economic growth and financial structure variables

$$\Delta \text{ Log (RGDP)} = \alpha_o + \alpha_1 \text{ Log FS} + \alpha_2 \text{ Log BS} + \alpha_3 \text{ Log Id} + \alpha_4 \text{ Log KM} + \alpha_5 \text{ Log } M_2 + \Sigma^{p}_{t} = {}_1 \alpha_7 \ \Delta \text{ Log FS} + \Sigma^{r}_{t} = {}_1 \alpha_8 \Delta \text{ Log BS} + \Sigma^{n}_{t} = {}_1 \alpha_9 \Delta \text{ Log Id} + \Sigma^{d}_{t=1} \alpha_{10} \ \Delta \text{ Log KM} + \Sigma^{2}_{t} = {}_1 \alpha_{11} \ \Delta \text{ Log M2} + \Sigma^{c}_{t=1} \Delta \text{ Log RGDP}_{t-1} + UT \quad (2)$$

To test for the long-run co integration relationship among the variables, we estimate equation, 2, by ordinary least squares (OLS) method and thus, conduct an F-test for the joint significance of the coefficient of the lagged level of the variables, The intention here is simple and as follows, thus;

Ho: α_1 to $\alpha_5 = 0$ against Hi: α_1 to $\alpha_5 \neq 0$ consequently, the computed F-statistics is then compared to the non-standard critical bounds.

RESULTS AND DISCUSSION

We present below the result of the Ng-Perron unit root-test Equation (1)

Table 1

Ng – Perron Unit Root Test for Equation 1

Country	Variables	Mzq		Mzt		MSB		MPT	
		Level	FD	Level	FD	Level	FD	Level	FD
	FS	-14.7	-26.1**	-2.62	-3.67**	0.20	0.10**	12.4	3.22**
Gambia	BS	-8.94	-40.2**	-1.87	-4.44**	0.19	0.12**	5.80	3.70
	Id	-3.19	-50.3**	-1.96	3.72**	0.29	0.11**	6.26	2.32**
Gambia	KM	-19.0	-61.4**	-2.69	-4.46**	0.26	0.09**	10.31	1.44**
	M2	-5.7	-28.7**	-2.72	-5.00**	0.18	0.19**	19.1	2.11**
	FS	-9.46	-24.6**	-2.17	-3.51**	0.29	0.10**	19.3	2.13**
Sierra Leone	BS	-17.4	-27.6**	-2.75	-5.11**	0.27	0.09**	17.3	3.44**
	Id	-5.10	-24.6**	-2.11	-4.59**	0.23	0.10**	11.3	0.99**
	Km	-6.50	-30.6**	-1.42	-4.83**	0.18	0.11**	14.5	2.76**
	M2	-17.50	-21.5**	-1.77	-3.63**	0.22	0.13**	18.6	3.41**
	FS	-19.29*	-48.9**	3.18*	-3.99**	0.15*	0.13**	4.00*	3.33**
Nigeria	BS	-6.79	-25.6**	-1.93	-4.91**	0.21	0.09*	10.6	1.65**
	Id	-20.2*	-45.0**	3.16*	-3.45**	0.14*	0.12**	4.1*	2.60**
	Km	-8.01	-26.9**	-2.17	-4.45**	0.18	0.08**	11.1	2.30**
	M2	-4.03	-12.0**	-1.81	-3.89**	0.16	0.12**	11.0	2.85**
	FS	-19.9*	39.1**	-3.17*	-5.01**	0.15*	0.11**	3.99*	1.99**
Ghana	BS	-7.32	-30.4**	-1.41	4.83**	0.23	0.11**	11.3	2.69**
	Id	-15.60	-62.9**	-1.95	5.15**	0.35	0.10**	10.3	0.89**
	KM	-19.40*	-53.1**	-3.34	-4.99**	0.15	0.12**	4.11*	1.89**
	M2	-2.19	26.3**	-2.71	-4.23**	0.34	0.11**	14.1	2.18

In the above Table 1 the results of Ng-Perron (2001) modified unit root test of the variable employed in this study indicate that all the variable are stationary at first difference, PS, KM are stationary at level for Ghana and Id, FS are stationary at level for Nigeria Having achieved stationary at level and first difference, it follows therefore that we can now apply ARDL bound test. Usually the assumptions of bound test collapse in the presence of second and above difference.

The outcome of the results of bound testing co-integration approach is presented in Table 2.

Table 2

Co-integration Test

Countries	F - Stats	Lags
Gambia	8.06**	4
Sierra Leone	12.03**	9
Nigeria	13.40**	8
Ghana	16.97**	5

As evidence from Table 2 above, there exist long-run relationships among the variables for all countries. There exist therefore linear combinations of all the variables. There is therefore, the tendency for the variable to coverage in the long run.

Having achieved stationary and co-integration we therefore present the ARDC estimations of the variable equation. An important issue in choosing the order of the distributed lag function Pesaran and Smith (1998) argued that the schmaltz 2 - Bayesian criteria (SBC) should be use in preference to other model specification because it has more parsimonious specification. The results are presented below.

Table 3
Estimated Long-Run Coefficient of Equation (2)

Variables	**Gambia**	**Sierra Leone**	**Nigeria**	**Ghana**
Constant	0.205(0.948)	-4.363(0.777)	6.899(0.931)	10.001(1.009)
Fs	-0.730(0.000)**	-0.843(0.009)**	0.901(0.001)**	0.601(0.001)**
Bs	1.267(0.021)**	1.733(0.703)**	0.203(0.100)**	0.311(0.906)**
Id	1.041(0.337)	0.318(0.006)**	0.715(0.051)*	0.813(0.006)**
Km	0.689(0.005)**	0.557(0.001)**	0.535(0.003)**	0.978(0.051)*
M2	-0.111(0504)	2.334(0.052)*	0.433(0.100)***	0.536(0.06)**

The items in brackets are the pro value of the t-statistic.

From Table 3, the long-run estimated coefficient shows that financial countries. This indicates that financial structure matter for real growth of GDP for these countries. However, Gambia and Sierra Leone gave support to banking sector lead growth as the coefficient of Fs is negative while Nigeria and Ghana are market lead growth. Equally significant at the one percent level are Bs and Km i.e., the ratio of Banking credit to GDP and ratio of stock capitalization to GDP, This means that financial structure matter for long-run economic growth of these economies. Investment and money supply defined broadly were not significant in most of the countries.

Table 4
Short-Run Model Results

Variables	**Gambia**	**Sierra Leone**	**Nigeria**	**Ghana**
Constant	0.45(0.371)	-1.015(0.218)	1005(0.419)	0.100(0.319)
Fs	-0.023(0.000)**	-0.051(0.005)**	0403(0.005)**	0.300(0.000)**
Bs	0.505(0.001)**	0.011(0.003)**	0.161(0.054)**	0.051(0.004)**
Id	0.914(0.010)**	0.001(0.100)***	0.183(0.008)**	0.411(0.0611)**
Km	0.236(0.003)**	0.067(0.007)**	0.097(0.001)**	0.453(0.081)**
M	-0.005(0215)	0.986(0.290)	0.036(0.926)	0.113(0.071)***
R^2	0.75	0.85	0.82	0.87
R^{-2}	173.5	0.83	0.81	0.86

f-stats	173.5(0.000)**	179(0.000)**	43(0.001)**	176(0.003)*
Dw	2.3	1.8	2.1	

From Table 4, we observed that the almost all the variables were significant at 1 percent level of significance. The coefficient of determination and the adjusted coefficient of determination indicate a stronger causal relationship between the dependent and independent variables. The f-statistic shows a significant level of 1 percent indicate the overall goodness of fit for all the variable equations. The Durbin-Watson shows absence of auto correlation in the entire model. We observed again that Gambia and Sierra Leone is bank driving growth economy while Nigerian and Ghana are market driving growth economy. This is indicated by the coefficient of (FS) in the model. However, Levine (2000) observed unbalanced financial systems, i.e., countries with well developed banks and poorly developed markets or vice-versa. That according to him my hinder or distort-financial structure with my hinder efficient provision of financial service. In spite of the classification, the useful conclusion derive from this estimation is that financial structure matters for growth of these economics, Whether banks lead growth or market lead growth, both are useful in analyzing the growth of these economies

CONCLUSION

This paper investigates the relationship between financial structure and real growth of Gross Domestic Product in some selected ECOWAS States. It provides a useful contribution in the relationship between financial structure and growth in these countries. It would be observed that studies in this area have been mainly on developed economies. This study bridges this gap by extending it to developing countries in sub-Saharan Africa.

In this study, it has been asserted empirically that financial structure matters for growth of real Gross Domestic Product. However some economies are more of bank growth while the others are markets led growth. Policy makers in sub-Saharan Africa could however have a comfortable reference point from this study, because it is based on similar economic conditions not on speculative study about a developed economy. However its needs to be emphasized that though the procedure used yield consistent results for most part, interpretation ought to be treated with caution due to the possibility of loss of power associated with small sample size and omitted variable bias as a result of the use of bivariate analysis, Again since variables on financial services are not adequately available in these countries, it would have been appropriate to examine the input of financial services in these countries. Effort will however be in the future to see how financial services affect growth of these countries. Conclusively the results in this study provide a clear understanding with reasonable policy implication. Improving the provision of stock market and banks provisions is critical for boosting Long-run economic growth in these countries.

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