Financial Structure and Economic Growth in Nigeria: Theory and Evidence

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Abstract

Purpose: The purpose of this study is to examine specifically the impact of competing financial structure theories on economic growth in Nigeria.

Design/methodology/approach: The study used time series data for a 17 year period: 1992-2008, to fill this important research gap. The study used the Ordinary Least Square regression approach to estimate the formulated models in line with financial structure theories. The growth rate of the gross domestic product per capita was adopted as the dependent variable, while the independent variables include; conglomerate index of bank-based financial structure; conglomerate index of market-based financial structure, conglomerate index of financial service-based financial structure; and the conglomerate index of the legal-based financial structure.

Findings: The regression results showed that the coefficients of bank-based theory and legal-based theory were positive in promoting economic growth, while the regression coefficients of market-based theory and the financial service theory were negative in promoting economic growth.

Research Limitations/Implications: Paucity of substantial local literature on financial structure and economic growth constitute the major limitation of this study. Although, this study is meant to close this gap, the implication is that foreign theoretical and empirical literature standpoint constitutes the bulk of the review, which may not explain reasons for any identifiable local trends in the Nigerian financial structure.

Practical Implication: The study recommends that policy makers should focus their attention on legal, regulatory and policy reforms that encourage the proper functioning of banks, rather than concern themselves with banks and market reforms.

Originality/Value: This study contributes to financial structure literature for developing economies by using data from Nigeria. Specifically, the findings reveal that for developing economies, bank-based financial structure is better in promoting growth.

Keywords: Economic growth, Financial structure

1. Introduction

The decision of developed and developing economies to move conveniently away from free market fundamentals to a regulated economic regime, with the government taking up major stakes in the financial markets through the injection of funds into the institutions as a measure of curbing the global financial crisis, has raised important issues in policy formulation. While some countries injected liquidity in the form of preference shares, others injected liquidity in the form of tier-two capital. Analysts believe that these decisions were informed by the countries' preference for a particular financial structure based on studies undertaken in those countries. According to Levine and Zervos (1998), in developed economies, policy makers show strong preference to a particular financial structure that exerts more influence on economic growth.

The Nigerian government via the Central Bank of Nigeria (CBN) injected N620b in the form of tier-two capital. This important bail-out decision has the capacity of promoting the bank-based financial structure over the market-based financial structure. However, the government did not in any way attempt a bail-out of the capital market, especially when one considers the fact that the stock market was not spared by the global financial crisis. For example, the Nigerian Stock Exchange that witnessed unprecedented growth in total market capitalization and value of share traded from 2004 to early 2008, experienced a serious downturn in its activities during the global credit crunch. According to Udeme and Onuba (2009), the market capitalization of the 303 listed equities.., which had opened on January 1st, 2008, at N10.18tn and appreciated to N12.395tn as at March 2008, suffered its highest fall in the 48-year history of the Nigerian Stock Exchange, depreciating by N3.223tn or 32 per cent to N6.957tn by the year end. Similarly, the NSE All Share Index depreciated by the same margin from 63,016.60 at which it opened in January, to 31,450.78 on the last trading day of 2008.

The government decision to bail-out only banks in the form of tier-two capital raises important questions such as; what is the structure of the Nigerian financial system? Which of these structures exerts more influence on economic growth? Research that clarifies our understanding of the financial structure that promotes economic growth in Nigeria is scant. This study strives to fill this important research gap. The findings from this study will have good policy implication and shape future policy oriented research. Also, information from such study will influence the importance policy makers and advisers attach to reforming the financial system. A very good understanding of the country's financial structure will in no small measure be invaluable for such an important decision, since relying on existing studies of financial structure in other jurisdiction might be misleading. The rest of the paper is structured as follows;

2. Review of Related Literature

The taxonomy established by Gerschenken (1962), which divided the financial system into two categories; 'bank-based and market-based' financial structure has generated serious controversy among scholars. The argument has been polarized along the following lines; (1) the standard parameters or measurement for classifying a country's financial system either as bank-based or market-based; (2) which of these classifications exert more influence on economic growth; and (3) the determinants of a country's financial structure. Financial structure has to do with the institutions, financial technology, and rules of the game that specify how financial activity is organized at a point in time (Stulz, 2001), and provides a payment system, i.e. a mechanism for pooling funds, ways of transmitting resources across space and time, ways to manage uncertainty and control risk, price information to allow the economy to implement a decentralized allocation, and ways to deal with the asymmetric information problems that arise when one party to a financial transaction has information that the others do not have (Merton, 1995).

The link between financial structure and long-run growth can be examined on the basis of competing theories of financial structure. These are: the bank-based view, the market-based view, the financial services view and the legal based view (Levine, 2002; Beck and Levine, 2002 and La Porta et al; 1997). The bank-based theory lays emphasis on the positive role of banks in development and growth, and also, stresses the shortcomings of market-based financial systems. It argues that banks can finance development more effectively than markets in developing economies, and, in the case of state-owned banks, market failures can be overcome and allocation of savings can be undertaken strategically (Gerschenkron, 1962). Those banks that are unhampered by regulatory restrictions, can exploit economies of scale and scope in information gathering and processing (for more details on these aspects of bank-based systems, see Levine, 2002, and Beck and Levine, 2002). The bank-based view emphasises the importance of banks in identifying good projects, mobilising resources, monitoring managers and managing risk,

while stressing the deficiency of market-based economies. For example, it has been argued that banks are effective at financing projects that are characterised by substantial asymmetric information (e.g, adverse selection and moral hazard), because banks have developed expertise in distinguishing between "bad and good" borrowers. According to the bank-based view, bank-based financial systems, especially in countries at an early stage of economic development, are more effective at fostering growth than market-based financial systems.

Indeed, bank-based financial systems are in a much better position than market-based systems to address agency problems and short-termism (Stiglitz, 1985). The latter reveal information publicly, thereby reducing incentives for investors to seek and acquire information. Information asymmetries are thus accentuated, more so in market-based rather than in bank-based financial systems (Boyd and Prescott, 1986). Banks can ease distortions emanating from asymmetric information through forming long-run relationships with firms, and hence through monitoring, contain moral hazard. As a result, bank-based arrangements can produce better improvement in resource allocation and corporate governance than market-based institutions (Stiglitz, 1985; Bhide, 1993).

In particular, advocates of the bank-based view argue that well functioning markets instantly reveal information in public markets, which provides individual investors with less incentive to acquire information. This argument is primarily based on the well known free-rider problem. If information is going to be revealed by the market, no one is motivated to collect it. As a result, competitive financial markets may be characterised by underinvestment in information. Consequently, well developed financial markets have a negative impact on the identification of innovative projects, and thereby impede efficient resource allocation (Stiglitz, 1985 and Booth, Greenbaum, and Thakor, 1993). Banks may have better incentives to gather information and monitor firms, and can efficiently internalize the fixed cost of doing so (Diamond, 1991).

The market-based theory highlights the advantages of well-functioning markets, and stresses the problems of bank-based financial systems. The market based theory argues that big, liquid and well-functioning markets foster growth and profit incentives, enhance corporate governance and facilitate risk management (Levine, 2002, and Beck and Levine, 2002). The inherent inefficiencies of powerful banks are also stressed, for they "can stymie innovation by extracting informational rents and protecting firms with close bank-firm ties from competition … may collude with firm managers against other creditors and impede efficient corporate governance" (Levine, 2002). Market-based financial systems reduce the inherent inefficiencies associated with banks and are, thus, better at enhancing economic development and growth.

A related argument is developed by Boyd and Smith (1998), who demonstrate through a model that allows for financial structure changes as countries go through different stages of development that countries become more market-based as development proceeds. An issue of concern, identified by a recent World Bank (2001) study in the case of market-based financial systems in developing countries, is that of asymmetric information. Scholars have argued that the complexity of modern economic and business activity has greatly increased the variety of ways in which insiders can try to conceal firm performance. Although progress in technology, accounting, and legal practice has also improved the tools of detection, on a balance scale, the asymmetry of information between users and providers of funds has not been reduced as much in developing countries as in advanced economies – indeed, it may have deteriorated.

The market-based view essentially counter-attacks the bank-based view by concentrating on problems generated by powerful banks. First, in the process of financing firms, banks get access to information that is not available to other lenders. Banks can use such inside information to extract rents from firms. More concretely, at the time of new investments or debt renegotiations, banks can have bargaining power over a firm's expected future profits. Powerful banks can obtain disproportionately large share of the profits, so that firms will have fewer incentives to undertake high risk and profitable projects (Rajan, 1992). Secondly, powerful banks can collude with managers against outsiders, which in turn impedes competition, corporate controls, the creation of new firms, and long-run economic growth (Hellwig, 1998). Wenger and Kaserer (1998) provide evidence from Germany where banks misrepresent balance sheet of firms to the public and encourage firm managers to misbehave.

The financial services view (Merton and Bodie, 1995; Levine, 1997), is actually consistent with both the bank-based and the market-based views. It embraces both, but minimizes their importance in the sense that the distinction between bank-based and market-based financial systems matters less than was previously thought; it is the financial services provided that are by far more important, than the form of their delivery (World Bank, 2001). According to the financial services view, the issue is not the source of finance. Rather it is the creation of an environment where financial services are soundly and efficiently provided. The emphasis is therefore on the creation of better functioning banks and markets rather than on the specific type of financial structure in place.

Simply put, this theory suggests that it is neither banks nor markets that matter; rather it is both banks and markets. They are different components of the financial system, and, as such do not compete with each other, but, ameliorate different costs like transaction and information cost, in the system (Boyd and Smith, 1998; Levine, 1997; Demirguc-Kunt and Levine, 2001). Under these circumstances, financial arrangements emerge to ameliorate market imperfections and provide financial services that are well placed to facilitate savings mobilisation and risk management, assess potential investment opportunities, exert corporate control, and enhance liquidity. Levine (2002) argues, that "the financial services view places the analytical spotlight on how to create better functioning banks and markets, and relegates the bank-based versus market-based debate to the shadows".

The legal-based view of financial structure –espoused by Laporta, Lopez-de-Silanes, Shleifer, and Vishny (1997, 1998, 1999a,1999b) – extends the financial services view and unconditionally rejects the bank-based versus market-based debate. The legal-based view argues that finance comprises a set of contracts. These contracts are defined – and made more or less effective – by legal rights and enforcement mechanisms. From this perspective, a well functioning legal system facilitates the operation of both markets and intermediaries. It is the overall level and quality of financial services – as determined by the legal system – that improves the efficient allocation of resources and economic growth. According to the legal-based view, the century long debate concerning bank-based versus market-based financial systems is analytically vacuous.

Empirically, a number of studies have concentrated on comparisons that view Germany and Japan as bank-based systems, while the US and UK are described as market-based systems. These studies have employed rigorous country-specific measures of financial structure. Existing studies on Germany and Japan use measures of whether banks own shares or whether a company has a 'main bank' respectively (Hoshi et al., 1991; Mork and Nakamura, 1999; Weinstein and Yafeh, 1998). The studies provide evidence that confirm the distinction between bank-based and market-based financial systems in the case of the countries considered. However, a reassessment of the evidence on the benefits of the Japanese financial system in view of the economy's poor performance in the 1990s has concluded against the beneficial effects of the bank-based nature of this system. Bank dependence can lead to a higher cost of funds for firms, since banks extract rent from their corporate customers (Weinstein and Yafeh, 1998).

Studies on the US and the UK concentrate on the role of market takeovers as corporate control devices (Wenger and Kaserer, 1998; Levine, 1997), and conclude in favour of market-based financial systems. Goldsmith (1969: 407), however, argues that such comparison in the case of Germany and the UK for the period 1864-1914 does not contribute to the debate since "[o]ne cannot well claim that a superiority in the German financial structure was responsible for, or even contributed to, a more rapid growth of the German economy as a whole compared to the British economy in the half-century before World War I, since there was no significant difference in the rate of growth of the two economies".

Levine (2002) in reinforcing Goldsmith's (1969) argument concludes that "financial structure did not matter much since the four countries have very similar long-run growth rates". Levine (2002) addresses this problem by using a broad cross-country approach that allows treatment of financial system structure across many countries with different growth rates. The findings of this study support neither the bank-based nor the market-based views; they are, instead, supportive of the financial services view, that a better-developed financial system is what matters for economic growth.

An earlier study by Demirguc-Kunt and Levine (1996), using data for forty-four industrial and developing countries for the period 1986 to 1993, concludes that countries with well-developed market-based institutions also have well-developed bank-based institutions; and countries with weak market-based institutions also have weak bank-based institutions, thereby supporting the view that the distinction between bank-based and market-based financial systems is of no consequence. Also, Levine and Zevros (1998), employing cross-country regression for a number of countries covering the period 1976 to 1993, conclude that market-based systems provide different services from bank-based systems. In particular, market-based systems enhance growth through the provision of liquidity, thus enabling investment to be less risky, such that companies have access to capital through liquid equity issues (Atje and Jovanovic, 1993). The World Bank (2001) provides a comprehensive summary of the available evidence, which reached similar conclusions. It argues strongly that the evidence should be interpreted as clearly suggesting that "both the development of banking and market promote economic growth: each can complement the other".

To provide greater information on both the importance of the structure of a country's financial system, economists have broadened the debate to include a wider array of national experiences. However empirical studies yield to controversies, which are also based on conceptual and statistical descriptions. The arguments are still on, with improved statistical and econometric tools of analysis. Country-specific studies have also been undertaken, yielding

to more controversies and revelations on the subject matter. At individual country level, empirical study on the structure of the Nigerian financial system based on the researcher's knowledge is scant, yet the structure of the Nigerian financial system is expanding both in size and complexity. Therefore, it is this knowledge gap that this study fills.

3. Data

This study uses indicators of financial development along the four competing theories of financial structure. Insights and justification for the inclusion of these variables are stated below.

3.1 Bank-Based Indicators (Bank-Based View)

The bank-based view emphasises the importance of banks in identifying good projects, mobilising resources, monitoring managers and managing risk, especially in countries at the early stage of economic development. The indicators of bank-based financial structure are as follows;

3.1.1 Bank Activity (BA)

To measure the activity of bank, the study adopts bank credit ratio, which equals the value of deposit money bank credits to the private sector as a share of gross domestic product. This indicator has been used by Levine and Zervos (1998), Levine, Loayza and Beck (2000), and Beck, Levine and Loayza (2000). This measure excludes credits to the public sector (Federal Government, State Government and Local Government). It is generally argued that this is the most robust measure for bank activity since the core function of banks is channeling of funds from savers surplus to savers deficit (Beck, Levine and Loayza, 2000). Also, this is a ratio of stock variables and does not pose any problem of wrong timing or deflation

$$\text{Bank Activity} = \textit{Bank Credit to the Private Sector/GDP} \quad (1)$$

3.1.2 Bank Size (BS)

To measure the size of bank, the study adopts liquid liabilities as a share of gross domestic product. Liquid liabilities to GDP is a general indicator of the size of the financial intermediaries relative to the economy (King and Levine, 1993a,b). According to Beck, Demirguc-Kunt and Levine (2001), Liquid liabilities to GDP equals currency plus demand and interest-bearing liabilities of banks and other financial intermediaries divided by GDP. They posit that this is the broadest available indicator of financial intermediation size often referred to as M2.

$$\text{Bank Size} = \textit{M2/GDP} \quad (2)$$

3.1.3 Bank Efficiency (BE)

One of the functions of financial intermediaries is to channel funds from savers to investors. Works along this line use net interest margin and overhead cost as proxies for bank efficiency (Claesens, Demirguc-Kunt and Huizinga, 1997; Demirguc-Kunt, Levine and Min, 1998). This study adopts the net interest margin, since it is the most used in extant literature (Claessens, Demirguc-Kunt and Huizinga, 1997; Demirguc-Kunt, Levine and Min, 1998). Net interest margin is the gap between the interest income the bank receives on loans and securities and interest cost of its borrowed funds (Rose and Hudgins, 2008). Net interest margin is a ratio of flow and stock variable and therefore measured at different points in time for several reasons, and do not need the deflation of numerator and denominator because there is no known deflator for individual bank's assets and income flows (Beck, Demirduc-Kunt and Levine, 2001).

$$\text{Net Interest Margin} = \textit{Net Interest Margin/Total Assets} \quad (3)$$

The study adopts the simple average of the three bank indicators as proxy for the bank-based view.

3.2 Market-Based Indicators (Market-Based View)

The market-based theory highlights the advantages of big, liquid and well-functioning markets in fostering growth, profit incentives, good corporate governance and facilitating risk management. The indicators of market-based financial structure are as follows;

3.2.1 Market Activity (MA)

Value of shares traded ratio equals the total value of shares traded on the stock exchange divided by GDP. The total value traded ratio measures the organized trading from the exchange as a share of national output and therefore should positively reflect liquidity on an economy-wide basis. The total value traded ratio also complements the market capitalization ratio. Although a market may be large, there may be little trading. In line with the works of Levine and Zervos (1996), Mohtadi and Agarwal (2004), Xu (2000), Pagano (1993), and other numerous works on this topic, this was used to proxy stock market liquidity.

$$\text{Total value of shares traded ratio} = \textit{Value of Shares Traded/GDP} \quad (4)$$

3.2.2 Market Size (MS)

Market capitalization ratio equals the total market value of listed shares divided by GDP. The assumption behind this measure is that the overall market size is positively correlated with the ability to mobilize capital and diversify risk on an economy wide basis. In line with the works of Levine and Zervos, (1996), Mohtadi and Agarwal, (2004), Xu, (2000), Pagano, (1993), this will be used as a measure of stock market size.

$$\text{Stock Market Capitalisation Ratio} = \textit{Total Market Capitalisation/GDP} \quad (5)$$

3.2.3 Market Efficiency (ME)

This is also known as market turnover. Turn over equals the value of total shares traded divided by total market capitalization. Though it is not a direct measure of the theoretical definition of liquidity, high turnover is often used as an indicator of low transaction cost. The turnover ratio complements the market capitalization ratio. A large but inactive market will have a large capitalization ratio but a small turnover ratio. Turnover ratio also complements the total value traded ratio. While the total value traded ratio captures trading relative to the size of the economy, turnover ratio measures trading relative to the size of the stock market. A small liquid market may have a high turnover ratio but a small total value traded ratio. In line with the works of Palyi (1932), Arestis, Demetriades and Luintel (2001), Yartey and Adjasi, (2007), Levine and Zervos (1996), this is a robust indicator of stock market efficiency.

$$\text{Turnover ratio} = \textit{Value of shares traded/market capitalization} \quad (6)$$

The market-based view is the simple average of the three market indicators.

3.3 Financial Services View

The financial services view argues that better developed financial systems positively influence economic growth, and that it is relatively unimportant to economic growth whether overall financial development stems from bank or market development. Thus, the financial-services view indicator equals the average of the bank-based and market-based indicators.

3.4 The Legal-Based View

The Nigerian legal system closely resembles the English law, a situation arising from Nigeria's colonial history. We adopt the measures of legal-based financial structure as constructed by LaPorta, Lopez-de-Silanes, Shleifer and Vishny (1997, 1998), Rajan and Zingales (1998) and Levine (1998) to examine the impact of the legal system on economic growth.

I. Creditor Rights. The ability of banks to persuade firms to pay their loans differs across national legal systems. Legal systems differ in terms of the rights of banks to repossess collateral or liquidate firms in the case of default. Legal systems differ in terms of the rights of banks to remove managers in corporate reorganization. Finally, legal systems differ in terms of the priority given to secured creditors relative to other claimants in corporate bankruptcy. More specifically, this study used four measures of the legal rights of banks:

AUTOSTAY equals one if Nigerian laws impose an automatic stay on the assets of the firm upon filing a reorganisation petition. *AUTOSTAY* equals 0 if this restriction does not appear in the legal code. The restriction would prevent banks from gaining possession of collateral or liquidating a firm to meet a loan obligation and thus promote market-based financial system.

MANAGES equals one if the firm continues to manage its property pending the resolution of the reorganisation process and equals zero if otherwise. In some countries, management stays in place until a final decision is made about the resolution of claims. In other countries, management is replaced by a team selected by the courts or the creditors. If management stays pending resolution, this reduces pressure on management to pay bank loans and promote market-based financial system.

SECURED equals one if secured creditors are ranked first in the distribution of the proceeds that result from the disposition of the assets of a bankrupt firm. *SECURED* equals zero if non-secured creditors, such as the government or workers, get paid before secured creditors. In cases where *SECURED equals* zero, this certainly reduces the attractiveness of lending secured credit.

CREDITOR is a conglomerate index of these three individual creditor rights indicators that is designed to be positively associated with creditor rights. Specifically,

$$\textit{CREDITOR} = \text{the average of AUTOSTAY + MANAGES + SECURED} \quad (7)$$

and takes on values between 1 (best) and - 2 (worst). We expect a country with higher values of *CREDITOR* to have better-developed banks, all else being equal.

2. *Enforcement.* The laws governing secured creditors will affect secured creditors only to the extent that the laws are enforced. Consequently, measures of the efficiency of the legal system in enforcing contracts are included in line with the works of LaPorta, Lopez-de-Silanes, Shleifer and Vishny (1998).

RULELAW is an assessment of the law-and-order tradition of the country that ranges from 10, strong law-and-order tradition, to 1, weak law-and-order tradition. This measure was constructed by International Country Risk Guide (ICRG) and is an average over the period of this study. Given the contractual nature of banking, higher values of the *RULELAW* is likely to positively influence banking development.

CONRISK is an assessment of the risk that governments will—and therefore can—modify a contract after it has been signed. *CONRISK* ranges from 10, low risk of contract modification, to 1, high risk of contract modification. Specifically, "modification" means either repudiation, postponement, or reducing the government's financial obligation. This measure was constructed by Laporta, Lopez-de-Silanes and Shleifer and Vishny (1997) and is an average over the period under study. Legal systems that effectively enforce contracts will tend to support bank-based financial systems.

$$ENFORCE = \text{the average } of\ RULELAW \text{ and } CONRISK \tag{8}$$

The empirical analyses focused on this aggregate index of the efficiency of the legal system in enforcing contracts, *ENFORCE,* and the aggregate index of creditor rights, *CREDITOR.*

4. Econometric Methodology

This is a time series study that covers the period: 1992-2008, and adopted the time serial linear multiple regression, which is specified thus;

$$Y_i = B_0 + B_1X_{1i} + B_2X_{2i} + U_i \tag{9}$$

Where; The subscript i runs over observation, I = 1, …,n; Y_i *is the dependent variable or the regressand ;* $X_{1i} + X_{2i}$ *are the independent variables or the regressors,* $B_0 + B_1X + B_2X$ *are the population regression lines or population regression function;* B_0 *is the intercept of the regression line;* $B_1 + B_2$ *are the slope of the population regression line; and* U_i *is the error term* (Stock and Watson, 2007)

To test the competing views on the role of the financial structure (bank-based view, market-based view, financial service view and the legal system service view) in promoting long-run growth in Nigeria, we modify the multiple linear regression in equation (9) into a standard growth regression in line with Beck, Demirguc-Kunt, Levine and Maksimovic (2001) which is specified thus;

$$G_i = B_0 + B_1FS_{1i} + B_2C_{2i} + U_i \tag{10}$$

Where; the subscript i runs over observation, I = 1, …,n; G_i *is the growth rate of GDP per capita,* FS_{1i} *is the respective financial structures,* C_{2i} *the control variable,* B_0 *is the intercept of the regression line, and* U_i *is the error term* (Stock and Watson, 2007). To modify equation (10) in line with the objectives of the study, we have;

$$\text{GROWTH} = B_0 + B_1(BBV)_{1i} + B_{1(}MBV)_{1i} + B_{1(}FSV)_{1i} + B_1(LBV)_{1i} + U_i\ . \tag{11}$$

Where, GROWTH is economic growth; BBV is bank-based view; MBV is market-based view; FSV is financial service view; and LBV is legal-based view.

To ascertain the net effects of financial structure on long-run growth in Nigeria in our results, we control other variables that might impact on economic growth. The controlled variables are government expenditure as a ratio of GDP and gross capital formation as a ratio of GDP. Thus, equation (11) is rewritten as;

$$\text{GROWTH} = B_0 + B_1(BBV)_{1i} + B_{1(}MBV)_{1i} + B_{1(}FSV)_{1i} + B_1(LBV)_{1i} + B_2GOVEXP(_{control)2i} + B_2GCF(_{control)2i} + U_i \tag{12}$$

Where, GOVEXP is government expenditure as a ratio of GDP and GCF is Gross Capital Formation as a ratio of GDP. The Ordinary Least Square time serial multiple regression was used to estimate the growth model in equation (12). The OLS estimator has been criticized for not considering the degree in variability as it assigns equal weight to all the variables which introduces bias in regression results. Our decision to use stock and flow variables might compound this problem. Specifically, stock variables are measured at the end of the period, while flow variables are defined relative to a period. This presents a problem both in correct timing and deflating correctly. To address these problems and ensure that our result is unbiased, we weighted the proxies to eliminate problem of heteroskedasticity. This approach allows the researchers assign equal weight or importance to each observation and therefore is capable of producing estimators that are BLUE (Best Linear Unbiased Estimator).

5. Results

Insert Table 1 Here

Table 1 presents the descriptive results. Results based on the descriptive analysis show that the average value of bank-based indicator is 2.02, while market-based indicator is 1.44. The higher value of bank-based indicator could be traced to the history of Nigerian financial system or the proxies used. The average value of the financial services view is 1.7 which is higher than the market-based view, but lower than the bank-based view. The value is consistent with the methodology since it is the simple average of market-based and bank-based view.

The average value of government expenditure to real GDP is approximately 2 for the period under review, while gross capital formation as a ratio of GDP has a value of 1.2. The descriptive analysis shows that the standard of living of Nigeria (economic growth) maintained a constant growth rate of 2% for the period under study. This falls short of the globally accepted standard and the National Economic Empowerment and Development Strategy benchmark of 10%. This is more worrisome considering the fact that the Nigerian population grows at 5.8% (for details on the growth rate of Nigerian population, see the various Central Bank of Nigeria Annual Reports and Statement of Accounts). The average values of government expenditure and gross capital formation justifies their inclusion as control variables.

Insert Table 2 Here

To test for the likelihood of multicollinearity given the nature of the data, table 2 presents the Pair-wise correlation matrix. The results of inter-correlation recorded between the pairs of the explanatory variables shows that the correlations between the variables are positive but non-significant. Most of the coefficients, as observed, are weak. This indicates at first glance, that although likely cases of multicollinearity may exist, the degree of such may be too remote to affect the results of the regression estimates (Gujarati and Porter, 2009).

Insert Table 3 Here

Table 3 presents the Ordinary Least Square regression results corrected for heteroskedasticity. Based on the results obtained from the model, the following conclusions could be drawn. The coefficient of bank based financial structure was positive, but non-significant in predicting economic growth in Nigeria. This result is consistent with the bank-based financial structure theory which posits that the unique role of banks in identifying good projects, mobilising resources, monitoring managers and managing risks promotes economic growth.

The coefficients of market-based and financial service view financial structure indicators were negative and non-significant in promoting economic growth. This finding is consistent with theory which argues that well functioning markets instantly reveal information in public markets, which provides individual investors with less incentive to acquire information. This argument is primarily based on the well known free-rider problem. If information is going to be revealed by the market, no one has incentive to collect it. As a result, competitive financial markets may be characterised by underinvestment in information. Consequently, well developed financial markets have a negative impact on the identification of innovative projects and thereby impede efficient resource allocation (Stiglitz, 1985 and Booth, Greenbaum, and Thakor, 1993). Banks may have better incentives to gather information and monitor firms, and can efficiently internalize the fixed cost of doing so (Diamond, 1991). Another problem with the market based financial structure is the fact that liquid markets can create an environment in which individual investors behave as if they were myopic (Bhide, 1993). Specifically, because individual investors are able to readily sell their shares in liquid markets, they have fewer incentives to monitor managers thoroughly. This implies that greater market development may hinder corporate and economic performance (Levine, 1997, 2000). Similar results in some jurisdictions have propelled government to reduce the volatility of the capital market through legislation through the ban on short-term trading in the stock market.

The coefficient of legal based financial structure was positive but not significant in promoting economic growth. This implies that it is the overall level and quality of financial services as determined by the legal system that promotes the efficient allocation of resources and economic growth. Thus, any legal system that promotes investors rights, ensures compliance to enforcement of contracts promotes economic growth.

6. Conclusion

This study assesses the impact of financial structure on economic growth in Nigeria. In particular, the study examines competing views of financial structure and economic growth. The bank based view holds that bank-based systems, particularly at early stages of economic development foster economic growth to a greater degree than market-based financial system. In contrast, the market-based view emphasizes that markets provide key financial services that stimulate innovation and long-run growth. Alternatively, the financial services view stress the role of bank and markets in researching firms, exerting corporate control, creating risk management devices, and mobilising

society's savings for the most productive endeavors. This view minimises the bank-based versus market-based debate and emphasises the quality of financial services produced by the entire financial system. Finally, the legal-based view rejects the analytical validity of the financial structure debate. The legal-based view argues that the legal system shapes the quality of financial services. Put differently, the legal-based view stresses that the component of financial development explained by the legal system critically influences long-run growth. Thus, countries should focus on creating a sound legal environment, rather than on debating the merits of bank-based or market-based systems.

The regression result using Nigerian data for the period 1992-2008 shows strong support for the bank-based and legal-based theories of financial structure. The negative result of the market-based view and the financial service could be traced to the volatility of the economy, which suggests that the country lacks the infrastructure for an efficient market-based economy. Although the measures of financial structure are not optimal, the results do provide a clear picture with important policy implications.

7. Policy Implication

Most policy prescriptions are of the view that improving the functioning of markets and banks is critical to the boosting of long-run economic growth. Despite the truism in the above statement, a particular structure exerts more influence on economic growth than the other. High levels of malpractices in the Nigerian stock market has turned the market into a side show, where inefficiencies would merely redistribute wealth between smart investors and noise traders, and would not affect real economic activities. Keynes (1936) argues that [a]s the organisation of investment market improves, the risk of the predominance of speculation does…increase…speculator may do no harm as bubbles on a steady stream of enterprise…a serious situation can develop…when enterprise becomes the bubbles on a whirlpool of speculation. The government, can as well de-emphasis the importance attached to the capital market, or take the bold step of providing first-class capital market infrastructures in Nigeria.

The results provide a very strong evidence for bank-based and legal-based financial structure, and is consistent with the findings of Levine and Zervos (1996), Demirguc-Kunt and Zervos (1996), Demirguc-Kunt and Makismovic (1996) and King and Levine (1993a,b) The results of some of these studies showed that the bank-based financial structure is more beneficial for developing economies. The policy implication is that government should intensify efforts to promote banking stability. The need for adequate regulation and supervision of the financial intermediaries arises because financial intermediaries are subject to asymmetric information. A key objective for financial regulation and supervision is to increase the effective functioning of the financial system in order to enhance its ability to absorb shocks and maintain financial stability. Financial instability occurs when shocks to the financial system interfere with the payment system and impact on the ability for normal business and trade to occur. Financial regulation and supervision can help increase the effective functioning of the financial system and maintain financial stability.

References

Arestis, P, Demetriades, P.O., & Luintel, K.B. (2001). Financial development and economic growth: the role of stock markets. *Journal of Money, Credit, and Banking,* 33, 16-41. http://dx.doi.org/10.2307/2673870

Atje, R., & Jovanovic, B. (1993). Stock markets and development, *European Economic Review,* 37, 632-640. http://dx.doi.org/10.1016/0014-2921(93)90053-D

Beck, T., & Levine, R. (2002). Industry growth and capital allocation: does having a market - or bank-based system matter?. *Journal of Financial Economics,* 64, 1.

Beck, T., Levine, R., & Loayza, N. (2000). Finance and the sources of growth. *Journal of Financial Economics,* 58, 261–300. http://dx.doi.org/10.1016/S0304-405X(00)00072-6

Beck, T., A. Demirgüç-Kunt, R. Levine, & Maksimovic, V. (2001). Financial structure and economic development: firm, industry, and country evidence, In: *Financial Structure and Economic Growth: A Cross-Country Comparison of Banks, Markets, and Development,* Eds: Demirguc-Kunt, A and Levine, R. Cambridge, MA: MIT Press.

Bhide, A. (1993). The hidden costs of stock market liquidity. *Journal of Financial Economics,* 34: 1-51. http://dx.doi.org/10.1016/0304-405X(93)90039-E

Boyd, J. H., & Prescott, C.E. (1986). Financial intermediary-coalitions. *Journal of Economics Theory,* 38, 211-232. http://dx.doi.org/10.1016/0022-0531(86)90115-8

Boot, A.W.A, Greenbaum, S.J., & Thakor, A. (1993). Reputation and discretion in financial contracting, *American Economic Review, 83: 1165-1183*.

Boyd, J. H., & Smith, B. D. (1998). The evolution of debt and equity markets in economic development. *Economic Theory*, 12, 519-560. http://dx.doi.org/10.1007/s001990050234

Claessens, A; Demirguc-Kunt, A., & Huizinga, H. (1997). How does foreign entry affect the domestic banking market*, Mimeo, Policy Research Department, World Bank.*

Demirguc-Kunt, A., &Levine, R. (2001). Financial structure and bank profitability *in Demirguc-Kunt, A. and Levine, R. (eds), Financial Structure and Economic Growth*, Cambridge: MIT Press.

Demirguc-Kunt, A, Levine, R., & Min, H.G. (1998). Opening to foreign banks: issues of stability, efficiency and growth, *Mimeo, Policy Research Department, World Bank.*

Demirguc–Kunt, A , & Levine, R. (1996). Stock market development and financial intermediaries. stylized facts. *The World Bank Economic Review*, 10, 291-327.

Demirgüç-Kunt, A., & Maksimovic, V. (1996). Stock market development and firm financing choices. *World Bank Economic Review,* 10(2), 341-370.

Diamond, D. W. (1991). Monitoring and reputation: the choice between bank loans and directly placed debt*. Journal of Political Economy,* 99: 689-721. http://dx.doi.org/10.1086/261775

Goldsmith, R. W. (1969). *Financial structure and development*, New Haven, CT: YaleUniversity Press.

Gerschenkron, A. (1962). *Economic backwardness in historical perspective — a book of essays,* Cambridge: Harvard University Press.

Gujarati, N.D., & Porter, D.C. (2009). B*asic econometrics*, 5ed, Boston: McGraw Hill International Edition.

Hair, J.F, Anderson, R.E, Tatham, R.L., & Black, W.C. (1998). *Multivariate data analysis,* Engelwood Cliffs, New York: Prentice-Hall.

Hellwig, M. (1998). On the economics and politics of corporate finance and corporate control, *University of Mannhein Working Paper.*

Hoshi, T., Kashyap, A., & Sharfstein, D. (1991). Corporate structure, liquidity, and investment: evidence from Japanese panel data. *Quarterly Journal of Economics,* 27: 33-60. http://dx.doi.org/10.2307/2937905

King, R. G., & Levine, R. (1993a). Finance and growth: schumpeter might be right. *Quarterly Journal of Economics,* 108: 717-738. http://dx.doi.org/10.2307/2118406

King, R. G., & Levine, R. (1993b). Finance, entrepreneurship, and growth: theory and evidence. *Journal of Monetary Economics,* 32: 513-542. http://dx.doi.org/10.1016/0304-3932(93)90028-E

La Porta, R, Lopez-de-Silanes, F, Shleifer, A. & Vishny, R.W. (1997). Legal determinants of external finance. *Journal of Finance,* 52: 1131-1150. http://dx.doi.org/10.2307/2329518

La Porta, R, Lopez-de-Silanes, F, Shleifer; A., & Vishny, R.W. (1998). Law and finance. *Journal of Political Economy,* 106: 1113-1155. http://dx.doi.org/10.1086/250042

Laporta, R, Lopez-de-Silanes, F, Shleifer, A, and Vishny, R. W. (1999a). Investor protection and corporate governance, Mimeo Working Paper Series.

Laporta, R, Lopez-de-Silanes, F, Shleifer, A, & Vishny, R. W. (1999b). The quality of government. *The Journal of Law, Economics, and Organization*, 15(1), 222-279. http://dx.doi.org/10.1093/jleo/15.1.222

Levine, R. (1997). Financial development and economic growth: views and agenda. *Journal of Economic Literature,* 35: 688-726.

Levine, R. (1998). The legal environment, banks, and long-run economic growth. *Journal of Money, Credit, and Banking,* 30, 596-613. http://dx.doi.org/10.2307/2601259

Levine, R. (2002). Bank-based or market-based financial system, systems: which is better?. *Journal of Financial Intermediation*, 11: 398-428. http://dx.doi.org/10.1006/jfin.2002.0341

Levine, R, Loayza, N. , & Beck, T. (2000), Financial intermediation and growth: causality and causes. *Journal of Monetary Economics,* 46: 31-77. http://dx.doi.org/10.1016/S0304-3932(00)00017-9

Levine, R., & Zervos, S. (1998). Stock markets, banks, and economic growth. *American Economic Review, 88: 537-558.*

Levine, R., & Zervos, S. (1996). Stock market development and long-run economic growth*.The World Bank Policy Research Paper* 582, 1-27.

Levine, R. (1997). Financial development and economic growth: views and agenda. *Journal of Economic Literature,* 35: 688-726.

Merton, R. C. (1995), A functional perspective of financial intermediation. *Financial Management*, 24: 23-41. *http://dx.doi.org/10.2307/3665532*

Merton, R. C., & Bodie, Z. (1995). A conceptual framework for analyzing the financial environment, In: *the Global Financial System: A Functional Perspective*, Eds: D. B. Crane, et al., Boston, MA: Harvard Business School Press: 3-31.

Mohtadi, H. ,& Agarwal, S. (2004). Stock market development and economic growth: evidence from Developing Countries, http//www.edu/mo.htadi/PAN–4– 01pdf, pp. 1 –18.

Morck, R., & Nakamura, M. (1999). Banks and corporate control in Japan. *Journal of Finance, 54, 319-340.* http://dx.doi.org/10.1111/0022-1082.00106

Pagano, M. (1993). Financial market and growth an overview. *The European Economic Review,* 37, 613-622. http://dx.doi.org/10.1016/0014-2921(93)90051-B

Palyi, M. (1932). Economic Significance of Bank Loans for Stock-Market Transactions. *Journal of Business of the University of Chicago*, Vol.5, No.1, pp. 28-46. http://dx.doi.org/10.1086/232230

Stiglitz, J. E. (1985). Credit markets and the control of capital. *Journal of Money, Credit and Banking,* 17: 133-152. http://dx.doi.org/10.2307/1992329

Stock, J.H., & Watson, M.W. (2007). *Introduction to Econometrics*, 2ed, USA: Pearson Education Inc.

Stulz, R. M. (2001). Does financial structure matter for economic growth? a corporate finance perspective, In*: Financial Structure and Economic Growth: A Cross-Country Comparison of Banks, Markets, and Development,* Eds: A. Demirguc-Kunt and R. Levine. Cambridge, MA: MIT Press: 143-188.

Rajan, R. G. (1992). Insiders and outsiders: the choice between informed and arms length debt. *Journal of Finance,* 47: 1367-1400. http://dx.doi.org/10.2307/2328944

Rajan, R. G., & Zingales, L. (1998). Financial dependence and growth. *American Economic Review,* 88: 559-586.

Rose, P.S., & Hudgins, S.C. (2008). *Bank Management and Financial Services*, 7ed, Boston: McGraw Hill International Edition.

Udeme, E., & Onuba, I. (2009). Global financial crisis: keeping the Nigerian stock market viable. *Daily Punch of 5th January.*

Wenger, E., & Kaserer, C. (1998). The German system of corporate governance: a model which should not be imitated, In: *Competition and Convergence in Financial Markets: The German and Anglo-American Models,* Eds: Black, S.W. and Moersch, M., North – Holland Press, New York: 41-78.

Weinstein, D. E., & Yafeh,Y. (1998). On the costs of a bank-centered financial system: the changing main bank relations in Japan, *Journal of Finance,* 53, 635-672. http://dx.doi.org/10.1111/0022-1082.254893

World Bank. (2001). *Finance for growth: policy choices in a volatile world*, A World Bank Policy Research Report, Washington D.C.: World Bank.

Xu, Z. (2000). Financial development, investment, and growth. *Economic Inquiry, 38: 331-344.*

Yartey, C. M., & Adjasi, C. K. (2007). Stock market development in Sub–Sahara Africa: critical issues and challenges. *IMF working paper WP/07/209, pp* 1 – 33.

Table 1. Descriptive Results

Variables	Obsevations	Mean	Std. Dev	Minimum	Maximum
Bank-based view	17	2.024664	1.821269	0.259254	6.668768
Market-based view	17	1.436615	2.126086	0.044256	7.579519
Financial-services view	17	1.73064	1.940238	0.151755	6.537626
Legal-based view	17	1.294118	0.224918	0.8	1.6
GovExp	17	1.979375	1.173902	0.341965	4.803428
GCapform	17	1.225676	0.841965	0.262042	2.896475
EG	17	2.637075	5.010085	-2.50528	18.04227

Source: Computed from Collated Data (Using Stata-Computa Analytical Package)

Table 2. Correlation Matrix Results

Variables	BBV	MBV	FSV	LBV	GOVEXP	GCF	GROWTH
BBV	1.0000						
MBV	0.2324	1.0000					
FSV	0.3802	0.0855	1.000				
LBV	0.1638	0.0405	0.1094	1.0000			
GOVEXP	0.4462	0.1164	0.28914	0.0187	1.0000		
GCF	0.5462	0.0859	0.2332	0.0671	0.1103	1.0000	
GROWTH	0.2191	0.0641	0.1379	0.3464	0.2069	0.2236	1.0000

Source: Computed from Collated Data (Using Stata-Computa Analytical Package)

Table 3. Ordinary Least Square Regression Results (corrected for heteroskedasticity).

regress GROWTH BBV MBV FSV LBV GOVEXP GCF						Number of obs = 17
Source	SS	df	MS			F(6, 10) =0.98
Model	148.809815	6	24.8016359			Prob > F = 0.4855
Residual	252.815794	10	25.2815794			R-squared = 0.3705
Total	401.625609	16	25.1016006			Adj R-squared = -0.0072
						Root MSE = 5.0281
GROWTH	Coef.	Std.	Err.	t	P>|t|	[95% Conf. Interval]
BBV	10.26949	5.429234	1.89	0.088	-1.827596	22.36658
MBV	-4.407898	2.094458	-2.10	0.062	-9.074641	.2588454
FSV	-1.810718	1.745191	-1.04	0.324	-5.699246	2.077811
LBV	1.18263	6.323808	0.19	0.855	-12.90769	15.27295
GOVEXP	-7.800911	4.898697	-1.59	0.142	-18.71589	3.114066
GCF	-3.127589	6.108579	-0.51	0.620	-16.73835	10.48317
_cons	11.11017	13.32353	0.83	0.424	-18.5765	40.79684