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MONETARY POLICY AND BANK LENDING RATE IN NIGERIA

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ABSTRACT

Lending rates are vital prices that influence consumption and investment spending decisions of economic units, and thus, the central banks of nations are saddled with the responsibility of ensuring that the rates charged by commercial banks are providing enabling financial environment, and this responsibility is being discharged by adopting appropriate monetary policy stances taking cognisance of the prevailing macroeconomic conditions. On this premise, this study examined the effect of monetary policy on commercial banks lending rates in Nigeria. Secondary data was obtained from central bank of Nigeria statistical bulletin from 1987 to 2017. Augmented Dickey Fuller, Bound test, and Autoregressive Distributed Lag were used to determine the effect of money supply, monetary policy rates, and cash reserve ratios on lending rates. The stationary results indicated that lending rates and monetary policy rates were stationary at level, and money supply and cash reserve ratios stationary at first difference. Bound test results showed that there were long run relationships between the dependent and the independent variables. From the Autoregressive Distributed Lag results, money supply had positive and insignificant effect on lending rates in the short- run but negative and significant effect in the long-run. Cash reserve ratios exerted positive and significant effect in the short run, and negative and insignificant in the long run. Monetary policy rates influence was positive and significant both in the short run and long run. It was concluded that, with monetary policy rates showing the potency to influence the direction of lending rates, monetary policies will go a long way in producing monetary management capable of generating increased growth with stability in Nigeria. It was equally recommended that the central bank of Nigeria should identify banks funds sources that were outside its control and institute control mechanism in order to improve cash reserve ratios potency both in the short run and long run, and strengthen monetary policies effectiveness.

Key Words: Commercial Banks, Central Bank, Lending Rates, Monetary Policy, Macroeconomic Conditions

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IMPACT OF MACRO-ECONOMIC INDICATORS ON PROFITABILITY OF COMMERCIAL BANKS IN NIGERIA

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ABSTRACT

This study examined the impact of macro-economic variables on the profitability of commercial banks in Nigeria from 2006-2017. The main objective of the study is to determine the extent to which macro-economic indicators affect the profitability level of commercial banks in Nigeria. The ordinary Least Square (OLS) method of regression and the Engle and Granger causality test were adopted in analyzing the parameters of the single equation model. The Profit after Tax (PAT) of five selected commercial banks was used as the dependent variable while the explanatory variables include the Gross Domestic Product (GDP), Inflation Rate (INFR), Interest Rate (INTR) and the Exchange Rate (EXR), Money Supply (MS) and Credit to private sectors. The study revealed that money supply, credit to private sector, interest rate and exchange rate all have negative effect on bank profitability while inflation rate and economic growth (GDP) exert positive influence on bank profitability. However, inflation, interest rate, exchange rate and gross domestic product exert significant influence on bank profitability in Nigeria. Hence, it is recommended that government and regulatory agencies should ensure that the gross domestic product growth rate is well managed as its growth would enhance profitability of commercial banks.

INSTITUTIONAL DETERMINANTS OF FIRMS' CAPITAL STRUCTURE IN SELECTED AFRICAN COUNTRIES

Oyebola Fatima Etudaiye-Muhtar, Michael Adebayo Ajayi, AbdulrazaqTaiye Jimoh and Biliqis Ayoola Abdulmumeen

ABSTRACT

A firm's capital structure decision is one of the main financial decisions in the corporate world due to the perceived effect it has on firm value. In addition to firm-specific and macroeconomic factors, institutional factors are important determinants of capital structure. This study investigates the effect of institutional factors on capital structure decision of firms in developing African countries. The study used a sample of 599 firms from nine selected countries employing the two-step system generalised method of moments to estimate the regression coefficients. Findings from the study reveal that government effectiveness, regulatory quality and financial market development are significant in explaining the capital structure a firm adopts in the selected countries.

Keywords: Africa, capital structure, financial markets, regulatory quality, rule of law
JEL Codes: G30, G32

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Institutional Determinants of Firms' Capital Structure in Selected African Countries

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Abstract

A firm's capital structure decision is one of the main financial decisions in the corporate world due to the perceived effect it has on firm value. In addition to firm-specific and macroeconomic factors, institutional factors are important determinants of capital structure. This study investigates the effect of institutional factors on capital structure decision of firms in developing African countries. The study used a sample of 599 firms from nine selected countries employing the two-step system generalised method of moments to estimate the regression coefficients. Findings from the study reveal that government effectiveness, regulatory quality and financial market development are significant in explaining the capital structure a firm adopts in the selected countries.

Keywords: Africa, capital structure, financial markets, regulatory quality, rule of law
JEL Codes: G30, G32

1.0 INTRODUCTION

Modigliani and Miller (1958) firms' capital structure irrelevancy theory set the foundation of capital structure studies in corporate finance. Nonetheless, several studies have equally shown that relaxing the assumptions of the irrelevancy theory makes capital structure decisions relevant for firms. These studies provided alternative theories that explain the financial structure of the firm. For example, Myers and Majluf (1984) explain how information asymmetry between firm managers and outside investors affect firm value and came up with the pecking order theory. This theory explains that firms have a hierarchy in the financing schedule where retained earnings id considered before other available means of finance. This is followed by debt and lastly equity. Similarly, Jensen (1986); Jensen and Meckling (1976) considered the effect of agency cost of cost of capital on firm value and came up with the agency cost theory that an optimal capital structure is achieved at the point where total agency cost (agency cost of debt plus agency cost of equity) is at its lowest. Other theories include trade-off theory and market timing theory.

These theories consider firm-specific factors in explaining the theory of capital structure adopted by a firm. However, literature also shows that non-firm specific factors such as financial markets and institutional variables are equally important. Financial markets reduce external cost of capital because of the intermediation role they play in the financial system. In particular, Banks and stock markets reduce transaction and agency costs, provide liquidity and alleviate information asymmetry problems such as moral hazard and adverse selection (Murinde, 2012). Institutional variables such as level of development of the market, government effectiveness, rule of law and regulatory quality have an indirect effect on capital structure choice through its effect on financial markets. For instance, in countries where the regulatory quality is high or where the government is highly committed to ensuring that financial sector policies are efficiently and effectively implemented, market activities are undertaken in an environment where the level of confidence in the system is high. *The safety and confidence in such markets encourage market activities and indirectly, its*

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growth and development (Reinhart & Tokatlidis, 2003). In developing countries however, these institutional factors are known to be weak resulting in adverse consequential effects on debt / equity component of firms' capital structure (Fan, Titman, & Twite, 2012). It is on this premise that the present study examines the effect of institutional factors on capital structure of firms in selected African countries. The rest of the study is structured as follows; Section 2 details a brief review of literature; Section 3 discusses the model and model employed for the study; Section 4 presents the results and discussion of findings while Section 5 concludes with relevant policy implications.

2.0 LITERATURE REVIEW

Corporate finance theory emphasises the role of banks and stock markets in ameliorating information asymmetry and reducing transaction costs through the intermediation function in trying to explain the relationship between financial market development and capital structure decisions. Following a successful intermediation process, financial markets create wealth and opportunities for efficient re-allocation of resources from surplus to deficit units. Consequently, they provide a conducive environment for efficient risk diversification (Chami, Fullenkamp, & Sharma, 2010). When this happens, it prompts firms to rebalance their capital structure to benefit from the gains of developing the markets. This forms the underlying basis by which corporate finance studies try to explain the relationship between financial market development and capital structure. Affirming this position, Demirguc-Kunt and Maksimovic (1996) explain that the developmental level of a country's financial market alters the capital structure of a firm when the firm tries to optimise its financing option to reduce costs that comes with taxes and other market imperfections. Development of the markets leads to changes in the importance of the different imperfections. This situation makes a firm issue only beneficial security that eventually change the capital structure. However, developed and developing financial markets have different features suggesting differences in capital structure decisions in both markets. As an illustration, in developed markets, constraints encountered with the use of external finance (debt or equity) such as transaction costs and information gathering costs, are low. Consequently, firms domiciled in such markets have easier access to external finance ((Belkhir, Maghyereh &Awartani, 2016; Mc Namara, Murro & O'Donohoe, 2017).). Wurgler (2000) also asserts that there is better allocation of capital in developed markets because of low transaction costs and availability of liquidity that assists firm managers in making financing and investment decisions. Specifically, the stock market's ability to reflect firm-specific information into stock prices reduces information asymmetry and makes it easier for managers to differentiate between good and bad investments. In contrast to developed markets, developing markets are characterised by many issues. These include high levels of asymmetric information, illiquidity, high transaction and issuance costs, low level of financial intermediation, limited sources of external financing, small market size and at times, a crowding out effect of the private sector by the public sector in the debt market (Beck, Maimbo, Faye, & Triki, 2011; Dahou, Omar, & Pfister, 2009). The presence of these issues suggests a limitation on the market's ability in effectively performing the intermediary role. This same position is affirmed by Fan, Wei, and Xu (2011) who noted that the inability of the market to carry out the intermediation function in developing markets imply that firms have poor access to external finance. This may limit its ability to invest optimally in projects that have positive net present values.

Related to market development are three factors that indirectly affect the level of market development through the quality of enforcement of existing laws especially as it concerns the financial system. These factors are government effectiveness, regulatory quality and the rule of law. According to Antoniou, Guney, and Paudyal (2008), higher rule of law leads to efficiency in enforcement of legal regulations inclusive of bankruptcy laws. This suggests that firms in countries

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where the rule of law is high use less debt in order to reduce the risk of bankruptcy. In a similar argument, Cho et al. (2014) showed that stronger creditor protection discourages firm managers and shareholders from using debt finance in order not to lose control of the firm when financial distress arises. They further noted that this is based on the view of the firms (demand-side) unlike the assertion of La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998) which is looked at from the investors (supply-side) angle.

In contrast, De Jong, Kabir, and Nguyen (2008) argued that in countries where law enforcement is efficient, firms tend to have high leverage because efficiency in law enforcement increases the ability of creditors to recover borrowed funds. The reverse is expected to be the case in countries where law enforcement is poor and as such, less debt is used (Fan et al., 2012).

In terms of empirical studies, one of the earliest studies that provided an insight into important determinants of capital structure is Rajan and Zingales (1995). The study investigated factors that are important in determining capital structure decisions of firms in seven industrialised countries.[2] Rajan and Zingales (1995) found that at aggregate level, firm leverage is similar across the seven countries and institutional differences between the countries were not able to explain the observed differences in capital structure decisions. Consequently, they conclude that a better understanding of the effect of institutional differences on capital structure may provide detailed justifications as to why there are variations in capital structure determinants/decisions across countries.

Providing evidence from developed countries, Bancel and Mittoo (2004) in a cross-country survey study of sixteen European countries showed that in addition to firm-specific factors, the quality of the legal system in the countries studied is an important determinant in the use of debt but not so for equity. They found that the quality of the legal system more influences debt-related factors than those that are equity related. They argued that this might be because of the higher agency cost of debt in countries where the quality of the legal system is poor. This lends support to the assertion of La Porta et al. (1998) that a country's legal system influences the availability of external finance due to agency problems associated with using external finance. Nevertheless, the investigation of the effect of financial markets was absent in the study.

In a later and similar study of four European countries (Germany, France, Netherlands and the United Kingdom), Brounen, De Jong, and Koedijk (2006) included an investigation of the effect of financial markets on capital structure decisions. They found that financial markets are important factors that influence financial decisions but did not find evidence supporting the assertion that agency problems are important in capital structure decisions. Specifically, they found that while firms in bank-based economies (Germany and France) were less concerned about stock price movements, the firms in capital market-oriented economies (Netherlands and the United Kingdom) were more concerned about a dilution in the earnings per share because it is used as a measure for performance. The study also employed the survey method and compared the results with those obtained for studies that investigated firms in the United States.

Antoniou et al. (2008) examined the effect of financial orientation and legal system on capital structure in two major capital market-oriented economies (the United Kingdom and the United States) and three major bank-oriented economies (France, Germany and Japan). They noted that the capital market-oriented economies have higher levels of transparency and investor protection than bank-based economies. Using the generalized method of moments estimation technique, they found that the capital structure choice of a firm is not only dependent on the economic tradition of the

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[2] These countries are Canada, Germany, Japan, Italy, the United Kingdom and the United States of America.

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country but also on firm-specific factors and the legal tradition as asserted by La Porta et al. (1998). Factors such as size of the firm, growth opportunity, term structure of interest rate and share price performance were all seen to have a positive effect on leverage in the five countries. The impact of asset tangibility, equity premium, effective tax rate and profitability were however, seen to vary across the countries with the degree of importance being country specific. More importantly, the study showed that firm-specific determinants were more important in capital market-oriented economies than in bank-based ones. From this result, they argued that generalizing the results obtained from a particular type of economy to another one with different institutional, legal and economic features might not hold.

From the developing country perspective, literature on developing markets differs from developed markets mainly because of the different institutional features between the countries. For instance, information disclosure by firms and institutions in developing countries is poor. This has the potential effect of increasing information asymmetries that can equally have an impact on capital structure decisions as depicted by capital structure theories. Another common institutional feature in developing countries is the extensive ownership and regulation of the financial system by the government. As noted by Booth, Aivazian, Demirguc-Kunt, and Maksimovic (2001), this can have a major effect on corporate financing decisions because it is reflected in price controls in the security market and programmes that dictate credits to selected sectors of the economy (also referred to as sectoral allocation of credit). To remove the potential effects of these and some other bottlenecks, some developing economies introduced market development measures such as removal of sectoral credit allocation and interest rate deregulation among other measures. Booth et al. (2001) examined firms in ten developing countries with different institutional structures to determine if these countries have the same set of capital structure determinants with developed countries.[3] Using data from 1980 – 1990 and within a static framework (random effects model), the study found that firm-specific factors that affect capital structure decisions in these countries were the same as those of developed countries but country-specific variables reflect some differences in how these decisions are made. Specifically, Booth et al. (2001) found that in developing countries, firms have a significantly lower amount of long-term debt than in developed countries.

Support for the findings in Booth et al. (2001) can be premised on the argument of La Porta et al. (1998) that in developed countries, the regulatory quality is higher and, as such, firms here employ more long-term financing than short-term. The legal system in developed countries also provides a conducive environment for long-term financial contracts due to institutional qualities that strengthen the system. Other factors attributed to the low use of long-term financing in developing countries are the level of development of the capital markets, gross domestic growth rate and inflation rate. Nevertheless, Booth et al. (2001) note that the heterogeneity of the sample countries in the study due to the wide range in institutional differences may be a problem in economic modelling when trying to account for variations in leverage ratios. In a closely related study but within a dynamic fixed effects framework and using aggregate firm-level data, Agarwal and Mohtadi (2004) reported evidence of banking sector development favouring debt financing while stock market development favours equity finance in a sample of 21 developing countries for the period 1980-1997. The markets in the study were selected from Asia, Africa, Europe and Latin America.

In contrast to the findings of Agarwal and Mohtadi (2004), Ağca, De Nicolò, and Detragiache (2013) showed that following banking sector reforms, there is less use of debt by corporate firms in a sample of 17 emerging market economies. The study drew up a reform index based on five types of

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[3] Brazil, India, Jordan, Korea, Malaysia, Mexico, Pakistan, Thailand, Turkey and Zimbabwe

reforms, namely: interest rate deregulation, banking competition, bank privatisation, banking sector supervision and credit allocation. The study found that reforms pertaining to bank supervision, interest rate and credit allocation had negative and significant effect on leverage ratio. However, there was no evidence to show that bank competition and privatization had any effect on leverage. They further argued that the reforms that had negative impact on leverage led to more stringent lending standard and higher cost of finance that subsequently led to less use of debt by the firms in the countries that were investigated. The coefficients of firm-specific factors were found to have signs predicted by the static and the pecking order theory of capital structure in previous studies. The study employed the generalized method of moments estimation technique.

For studies that combined both developing and developed countries together, one of the earliest in studies in this group is Demirguc-Kunt and Maksimovic (1996) who examined the effect of stock market development on financing choices of firms in 30 developed and developing countries. Using firm-level aggregate data, they found that development in the stock market promotes equity financing while banking sector development encourages the use of more debt finance in the total sample. Market capitalization and stock market turnover ratio was used to proxy stock market development while three separate variables; bank liquid's liability to GDP, ratio of domestic credit to the private sector and ratio of deposit bank domestic assets to GDP were used to measure development in the banking sector. However, on breaking down the sample into developed and developing countries, they found that while equity finance replaced long-term debt finance in developed countries, the reverse was the case in developing countries. This is because development of the stock market in developing countries only increased the level of debt in large firms' books, not for small firms. The increase in debt was attributed to the market's ability to aggregate firm information that induces lenders to extend credit to firms whose stock is traded in the market.

In another study, examining the importance of firm-specific and country-specific factors in the determination of capital structure decision in 42 developed and developing countries, De Jong et al. (2008) reported that the impact of firm-specific factors on capital structure varies across the countries investigated. More importantly, they found that in addition to the direct effect of country-specific factors on the leverage ratio, country-specific factors also have an indirect effect on capital structure decisions through its effect on firm-specific factors. For instance, for the direct impact, observed differences in capital structure across the countries were explained by country-specific factors like gross domestic product, bond market development and creditor right protection. For the indirect impact, the quality of law enforcement and health of the economy was found to strengthen the effect of firm-level factors like profitability, growth opportunity and liquidity. This is in addition to the direct impact that law enforcement and health of the economy have on capital structure. The study used pooled ordinary least squares and seemingly unrelated regression technique for analysing the data to determine if differences exists in the coefficients reported for each country. The financial market variables used in the study are the stock market development measured as ratio of stock market capitalization to GDP and bond market development measured as the ratio of bond market capitalization to GDP. The study did not examine the banking sector, a major source of external finance for corporate firms in developing markets.

Examining the effect of stronger creditor protection on leverage ratio in a sample of 48 developing and developed countries, Cho et al. (2014) reported that stronger creditor protection led to a decline in long-term leverage. They argued that this is because of the reluctance of investors and firm managers to use debt because stronger creditors' protection increased the likelihood of losing control of the firm in the event of bankruptcy or financial distress. This view is focused on the demand-side (firms need for external finance). However, by including supply-side factors (financial

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markets) in the investigation, they showed that certain firm-level and country characteristics reduce the effect of the demand side factors. This according to them suggested that the need for external finance by firms outweighs the fear of losing control of the firm. The firm-level and country characteristics included in the study are profitability, growth opportunity, firm size, asset tangibility, research and development, liquidity, inflation and gross domestic product. Supply-side variables in the study include stock market development, debt market development and the overall development of the market.

Most of the literature reviewed above focused majorly on countries outside of the African continent and as noted by Antoniou et al (2008), generalizing the findings in existing literature to firms in the continent may not be ideal because of the differences in institutional qualities and level of development. Equally important is the introduction of developmental policies into their financial system to promote firm access to external finance.

3.0 METHODOLOGY, DATA AND VARIABLES EMPLOYED

3.1 Model and Estimation Technique

This study adapts its model from Antoniou et al (2008) and proxy capital structure with three different measures of leverage ratio is modelled as given in equations (1) to (3):

TDR = f(lagged total debt ratio, firm-specific, macroeconomic and institutional variables) (1)
LTDR = f(lagged long-term debt ratio, firm-specific, macroeconomic and institutional variables) (2)
STDR = f(lagged short-term debt ratio, firm-specific, macroeconomic and institutional variables) (3)
Where: TDR = total debt ratio; LTDR = long-term debt ratio; STDR = short-term debt ratio, Firm-specific variables consist of asset tangibility, profitability, growth opportunity, firm size and non-debt tax shield; Macroeconomic variables consist of gross domestic product and inflation and are added as control variables; Institutional variables consist of banking sector and stock market development variables, regulatory quality, rule of law and government effectiveness. See Table 1 for the variable description and measurement.

The method employed for estimating equations 1-3 is the two-step system generalised method of moments (GMM) because it takes care of issues that are inherent in the data. These issues include dynamic panel datasets that have small time period and many individual units, endogeneity, autocorrelation and unobserved time-invariant fixed effects (Blundell & Bond, 2000; Roodman, 2009). Besides, using GMM estimation techniques does not require a complete knowledge of the distribution of the data as noted in Antoniou et al. (2008).

Variable	Definition	Source
Total debt ratio (TDR)	Ratio of total debt to total assets	Datastream
Long-term debt ratio (LTDR)	Ratio of long-term debt to total assets	Datastream
Short-term debt ratio (STDR)	Ratio of short-term debt to total assets	Datastream
Long-term debt maturity (LTDMR)	Ratio of long-term debt to total debt	Datastream
Short-term debt maturity (STDMR)	Ratio of short-term debt to total debt	Datastream
Asset tangibility (TAN)	Ratio of net fixed assets to total assets	Datastream
Profitability (PROF)	Ratio of operating income to total assets	Datastream
Growth opportunity (GRW)	Ratio of capital expenditure to total assets	Datastream
Firm size (SZ)	Natural logarithm of sales	Datastream
Non-debt tax shields (NDTS)	Ratio of depreciation expense to total asset	Datastream
Banking sector development (BCR)	Ratio of domestic credit to the private sector by commercial banks to GDP	World development indicator database
Stock market development	Ratio of value of traded shares for a	World development

Table 1: Variable Description and Measurement

(STO)	period to average market capitalization for the same period (stock market turnover ratio)	indicator database
Legal rule (RL)	Takes a value between -2.5 and 2.5	World development indicator database
Regulatory quality (RQ)	Takes a value between -2.5 and 2.5	
Government effectiveness (GE)	Takes a value between -2.5 and 2.5	World development indicator database
Inflation (INF)	Annual rate of change of consumer price index	World development indicator database
Gross domestic product (GDP)	Annual percentage growth rate of GDP	World development indicator database

4.0 RESULTS AND DISCUSSION OF FINDINGS

Table 2 presents the result of the regression equation for the dependent variables; total debt ratio (TDR), long-term debt ratio (LTDR) and short-term debt ratio (STDR) for the firms in the study.

The lagged dependent variables are all significant at 1% significant level implying the appropriateness of a dynamic model. Other important test statistics to signify the suitability of the method employed are the non-significance of AR(2) and Hansen statistics and the significance of Wald Chi^2 at 1% level of significance.

Table 2 shows that not all institutional variables of interest (BCR, STO, GE, RQ and RL) are significant in explaining the capital structure of firms in the sampled countries. For instance, (BCR) is not significant for either total debt ratio or long-term debt ratio. However, it is significant at the 5 % significance level in the column for short-term debt ratio with a negative coefficient (-0.055). This implies that banking sector development in the form of domestic credit to the private sector by commercial banks in African countries has a negative effect on the use of short-term debt by non-financial firms. The non-significance of total debt and long-term debt models implies the effect is dependent on the definition given to debt ratio. Theoretical literature portrays that development in the banking sector should lower agency cost, transaction costs and reduce information asymmetry. This process, according to Demirgüç-Kunt & Maksimovic (1996) should result in an increase in debt availability. However, the findings reported in Table 5.7 suggest that the effect for the sampled firms is not as postulated by financial intermediation theory; rather than an increase in debt ratio, a decline is observed.

Table 2: Two-Step System Generalised Method of Moments Regression Estimates for the Effect Institutional Variables Capital Structure (Full Sample)

	TDR	LTDR	STDR
$TDR_{i,t-1}$	0.593*** (0.123)	-	-
$LTDR_{i,t-1}$	-	0.571*** (0.134)	-
$STDR_{i,t-1}$	-	-	0.593*** (0.094)
PROF	-0.009 (0.015)	-0.003 (0.009)	-0.017* (0.010)
TAN	0.051** (0.024)	0.019 (0.013)	-0.089** (0.038)
NDTS	-0.113 (0.174)	-0.004 (0.138)	-0.024 (0.207)
GRW	0.004**	0.001	-0.000

	(0.002)	(0.001)	(0.001)
SZ	0.003	0.002	-0.009***
	(0.002)	(0.002)	(0.003)
INF	-0.010	-0.023	-0.007
	(0.059)	(0.034)	(0.117)
GDP	-0.221**	-0.121*	-0.019
	(0.086)	(0.063)	(0.202)
BCR	-0.005	-0.006	-0.055**
	(0.011)	(0.007)	(0.021)
STO	-0.003	-0.007	-0.070**
	(0.017)	(0.010)	(0.032)
GE	0.031*	0.019	-0.055*
	(0.018)	(0.015)	(0.029
RQ	-0.026*	-0.004	0.034
	(0.016)	(0.012)	(0.028)
RL	-0.001	-0.003	-0.002
	(0.007)	(0.006)	(0.008)
AR (1)	-3.39	-3.04	-6.32
	(0.001)	(0.002)	(0.000)
AR(2)	-0.44	0.29	-0.47
	(0.658)	(0.770)	(0.636
Hansen Statistics	33.49	33.55	37.97
	(0.443)	(0.256)	(0.762)
Wald chi^2	5.79	8.69	40.74
	(0.000)	(0.000)	(0.000)
Number of groups	596	596	596
Number of instruments	48	44	60
Number of observations	4064	4064	4064

Note: This table presents the results of equations (1), (2) and (3) using the two-step system generalized method of moments estimation technique with STATA 11 software, the coefficients and standard errors that are robust to heteroskedasticity (in parentheses). The dependent variables are TDR, LTDR and STDR. All variables are as defined in Table 1. The Wald chi square, Arellano-Bond (AR1 and AR2) tests statistics and the Hansen Statistics are also included in the table with their P-values in parentheses. *,**, *** indicates 10%, 5% and 1% level of significance respectively. The table in addition, reports the number of groups, number of instruments and number of observations.

The decline is noted to be dependent on the definition of debt ratio as seen in the significant decrease in short-term debt ratio following banking sector development. This is implied by the inverse and significant coefficient of the proxy for banking sector development (BCR) in the column for short-term debt ratio (-0.055). Nevertheless, the negative effect on debt ratio is in line with the findings of Ağca et al. (2013) that following some specific banking sector reforms, debt ratio of firms' decline especially for reforms that tend towards bank supervision, interest rate liberalization and credit allocation. They argued that these reforms led to stringent lending standards that increased the cost of debt finance. In a similar argument, Faulkender and Petersen (2006)noted that monitoring costs and less than perfect financial contracts increase the cost of debt for firms in imperfect markets where development of the sector did not remove all financial market imperfections. The expectation from developing the market is that constraints encountered in accessing debt finance are removed such that debt availability increases and firms' access to credit becomes easier. Contrary to expectations however, debt ratio declined rather than increased as observed in Table 2. This might perhaps be due to an increase in the cost of obtaining debt finance and may be explained in terms of cost of debt arising from imperfect financial contracting. It may also be that the firms found an alternative form of external finance. The findings are however in contrast to that of Agarwal and Mohtadi (2004) who found that development in the banking sector led to a corresponding increase in debt finance. The coefficient of stock market development (STO),

although negative in all three models, is also significant only in the column for short-term debt ratio (-0.070).

Regarding other institutional factors, government effectiveness has a significant and positive coefficient (0.031) while the regulatory quality is negative (-0.026) and significant for TDR while for STDR, government effectiveness is -0.055. The positive coefficient of government effectiveness (which captures government commitment towards policies aimed at market development) is consistent with the supply-side view that efficiency in law enforcement encourages investors to provide funds for firms because it increases the ability of creditors to recover borrowed funds. The rationale is that if the government is committed to making the markets conducive for stakeholders, for instance, creditors will be willing to make credit available to firms. A similar finding is reported in De Jong et al. (2008). In contrast, the negative coefficient of regulatory quality is consistent with the argument of Antoniou et al (2008) and Cho et al. (2014) that firms are reluctant to use debt when the quality of regulation strengthens investors' protection because of the fear of losing control of the firm. This implies that firms will employ less debt in their financial structure due to the fear of loss of control.

Inflation (INF) is observed not to be significant in all models unlike GDP which is significant in the TDR and LTDR models at 5% and 1% levels of significance respectively. Firm-specific variables across the three models significantly explain theories of capital structure. For example, TDR, the significant and positive sign of tangibility of assets (0.051) suggests that firms with tangible assets take on more debt finance because the assets serve as collateral to secure the loan in addition to reducing financial distress cost. This is in line with the prediction of the trade-off theory, which is consistent with previous studies such as Akhtar and Oliver (2009) and Frank & Goyal (2009). Nonetheless, evidence of pecking order theory is also presented in the results through the signs and significance of growth opportunity. The significant and positive effect of growth opportunity (0.004) implies that growing firms accrue debt over time to finance investments that continuously grow as the firm grows. The proxy for growth opportunities (capital expenditure) according to Frank and Goyal (2009) represents financial outflows that increase financing deficit. For STDR, profitability (-0.017), tangibility of assets (-0.089) and firm size (-0.009) are important determinants of short-term debt ratio. These firm-specific variables are consistent with the predictions of the pecking order theory that firms follow a hierarchy in financing decisions preferring to use retained earnings followed by debt and equity as the last option (Frank & Goyal, 2009; Ramjee & Gwatidzo, 2012).

5.0 CONCLUSION

This study investigates the effects of institutional variables on capital structure of firms in selected African countries using the two-step system GMM for the period 2003-2012. The results showsupporting evidence for the financial intermediation theory that stock market development leads to a substitution of equity for debt, especially for short-term debt, as observed in the decline of short-term debt ratio following banking sector and stock market development. Government effectiveness capturing government's commitment to policies aimed at market development encourages the provision of capital fund because creditors know that their fund is safe and can be easily recovered i.e. the supply-side view that efficiency in law enforcement encourages investors to provide funds for firms because it increases the ability of creditors to recover borrowed funds. The rationale is that if the government is committed to making the markets conducive for stakeholders, for instance, creditors will be willing to make credit available to firms. For policymakers, findings from this study showed while polices for developing the stock market appeared to be effective in reducing the use of debt finance suggesting a substitution effect, the same cannot be said for policies targeted at the banking sector for debt finance. In view of this, it is recommended that policy makers and financial regulators should review existing development measures in the banking sector to stop implementation of the ineffective ones and introduce workable reforms that will remove identified market frictions. For instance, credit bureau organizations or alternative mechanisms that allow information sharing between financial and industry players may be

established to mitigate moral hazard and adverse selection problems arising from information asymmetry between firms (borrowers) and lenders (banks). If credit bureaux are in place, they are likely to improve the screening and monitoring process, which can lead to reduction in transaction costs through risk-based pricing that, will reflect the credit worthiness of the borrower (industry players.

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