The Effect of Capital Structure on Performance of Banks in Ghana: Evidence from Listed Banks on Ghana Stock Exchange

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Abstract
Capital structure decisions are still debatable issue in corporate finance literature. The issue has been whether capital composition of debt and equity is relevant; and if relevant, whether optimal capital structure exists. Whilst some scholars have empirically supported positive association between capital structure and firms' performance, others have concluded an inverse relationship. Therefore, it is of great importance for managers to abreast themselves with modern theories and empirical findings available in order to serve as a guide when taking financial decisions on whether to source funds internally or externally to finance investment projects. The main object of the study is to investigate whether relationship exists between capital structure (measured in terms of short-term debt to total asset and total debt to total asset) and listed banks' performance (measured in terms of earning per share) based on data gathered from 2010 to 2019. Balanced panel data was analyzed through the use of descriptive statistics, correlation analysis and Ordinary Least Square (OLS) regression analysis. The findings revealed a highly leveraged Ghanaian banks; with short term debt and total debt forming 71.57% and 85.19% of total assets respectively. It was also revealed further that capital structure has statistically significant association with banks' performance. However; short term debts showed a positive relationship or correlation with performance whist total debt and performance exhibited an inverse correlation with performance. The findings would serve as a guide to bank managers when making financial decision on capital structure.
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1. 0 Introduction

Corporate entities normally find it uneasy task in taking decisions regarding their capital structure: whether equity, debt or combination of both should be used to finance investment portfolios. Such decisions are taken with caution because they form the foundations upon which the values of firms are maximized. Brounen and Eichholtz (2001) described capital structure as a puzzling concept in the literature of finance. Ogebe et al. (2013) opined that the term is a key matter in financial economics. Capital structure is the debt-equity mix of corporate entities. According to Saad (2010) capital structure depicts the manner in which firms finance their assets with debt, equity or hybrid securities.

Debt financing has gained popularity in finance literature as result of its advantage of tax deductibility of interest payments which makes it cheaper than equity (Fosberg, 2004); thereby enhancing profitability and consequently meeting the objective of maximizing shareholders' value. Debt financing also ensures that equity shareholders existing controls are not diluted (Fleming et al. 2005). However; overdependence on debt results in bankruptcy cost and financial distress. Debt providers would insist on payment of interests and principals even in situations where firms are not profitable.

There is a school of thought that prefers equity financing to debt financing. Owners of firms have residual claims and therefore dividend payments would normally not be made if the firm is not profitable; providing the firm with some breathing space in times of difficulties. However; dividends are non-tax deductible expenditure. With each source of finance having its own identified pros and cons coupled with the absence of optimal capital structure guideline, the golden rule for firms is to maintain a capital structure that minimizes cost of capital and optimizes shareholders' wealth.

Corporate finance experts and scholars have divided opinions on whether capital structure is a relevant factor that influences firms' profitability. Without any known acceptable theory in the past concerning capital structure (Luigi & Sorin, 2011 as cited in Ahmeti & Prenaj, 2015), Modigliani and Miller (MM), (1958) developed an initial theorem on capital structure: the theorem of capital structure irrelevance. This theorem is popularly referred to as the cornerstone of corporate finance theory. Their theorem initially postulated that capital structure is irrelevant to maximization of firms' wealth. The theorem views capital structure in a perfect market economy where taxes, transaction cost and other frictions are non-existent (Modugu, 2013). In such an economic environment, firms need to be indifferent regarding the mix of their capital structure. They concluded that debt, equity or combination of both does not maximize shareholders wealth or value and hence the value of leveraged entities is not different from that of unleveraged entities.

Other theories oppose the assumptions underpinning the MM theorem and argue that capital structure

matters in evaluation of firms' value. Such theories include the Trade-off Theory (TOT), Pecking Order Theory (POT), Bankruptcy Cost Theory, Signaling Theory, Agency Cost Theory (ACT) and the Market Timing Theory (MTT). Several empirical research findings continue to disprove the MM theorem whilst a number of them have also supported the MM's conclusions.

Capital structure decisions are crucial and cannot be discussed without examining it implications in the financial sector: especially the commercial banks. Banking operations are very risky because of the unique role they play in an economy. They play financial intermediation function through mobilization and redistribution of funds to economic players (Niresh, 2012). Most banks collapse because of inappropriate level and mix of capital. By the nature of their operations, most banks in the developing economies are greatly financed with short term debts (mainly customer deposits). This is because, financial markets (where long-term capital can be obtained) are not efficient. As a result of borrowing short and lending long, any bank that shows symptoms of financial distress creates evaporation of confidence in the whole sector; triggering panic withdrawals which ultimately lead to solvency issues.

Lama et al. (2014) posited that managers, regulators and shareholders place much importance to capital structure decisions of banks. In Ghana, following the directive by the Bank of Ghana to raise the minimum capital ratio to Ghc400million, many banks struggled before meeting the requirement. Others could not meet the requirement and had to merge their operations; those facing extreme liquidity challenges were dissolved. It is therefore of great importance that bank managers analyze the correlation that exist between leveraged capital structure and performance in order to be guided when taking decision as to which combination of debts and equity is appropriate for their operations.

This research was undertaken to satisfy a desire need of contributing to the available empirical findings on capital structure through critical examination of capital structure's implications on performance of Ghanaian listed banks; most importantly those listed on Ghana Stock Exchange (GSE).

2.0 Literature Review
Subsequent developments on MM initial preposition on capital structure irrelevance have suggested capital structure relevance on firms' financial performances. We discuss some of these theories:

2.1 Modigliani and Miller's Theorem
In 1958, two university professors came out with capital structure theorem- the irrelevance of capital structure preposition. The theory capitalizes on assumptions of tax-free economy, absence of transaction and bankruptcy coast as well as the existence of efficient capital markets. They concluded that the firm's value is not dependent on its capital structure; therefore, finance managers do not need to worry about the proportion of equity or debt to be used to finance their operations. They assumed no relationship between capital and maximization of shareholders wealth. On the assumption of efficient capital market, they believed investors could deal freely in securities because of absence of asymmetric information in the market. Again, if the main advantage of debt financing—tax shield—is absent, then choosing between debts or equity should not be a bother.

However, there are a number of scholars and authors that challenged these assumptions upon which the theorem was developed. The assumptions were seen as being too abstract and theoretical (Danso & Adomako, 2014) and also at a distance with reality. MM theorem was formulated in a world different from the real world, and hence its continuous discussion among economists (Gifford, 1998 as cited in Ahmeti & Prenaj, 2015). Responding to their critics, MM (1963) revised their earlier proposition and concluded that the presence of corporate income tax will decrease weighted average cost of capital and subsequently enhance firms' value.

2.2 Trade-off Theory
Building on the MM theorem, the TOT—Static Trade off Theory—emphasizes the existence of optimality in capital structure and recognizes the importance of weighing the advantages and disadvantages associated with debt usage in maximizing shareholders value. Debt secures tax benefit (shields) due to interest payments and this reduces weighted average cost of capital which results in firm value enhancement (DeAngelo & Masulis, 1980; Modigliani & Miller, 1963). Another benefit of debt financing is that it helps agency costs that exist between shareholders and management to be minimized (Jensen, 1986; Jensen & Meckling, 1976).

That notwithstanding, TOT recognizes the adverse effect of leverage; bankruptcy cost. As more and more debts are used to finance projects, the risk of financial distress is increased (Kim, 1978; Kraus & Litzenberger, 1973). TOT concludes that every firm has specific target debt ratio at which the trade-off between interest shields and costs associated with financial distress are in equilibrium. TOT stipulates that firm's value is given by the formula:

$V_F = V_U + P_V$ (Interest Tax Shield) – P_V (Costs Associated with Financial Distress),

Where:

V_F = Firm's Value

V_U = Unlevered firm's Value

P_V (Interest Tax Shield) = Interest Tax Shield' Present Value

P_V (Costs Associated with Financial Distress) = Present Value Associated with Financial Distress.

The theory is explained graphically per Figure 1 as follows:
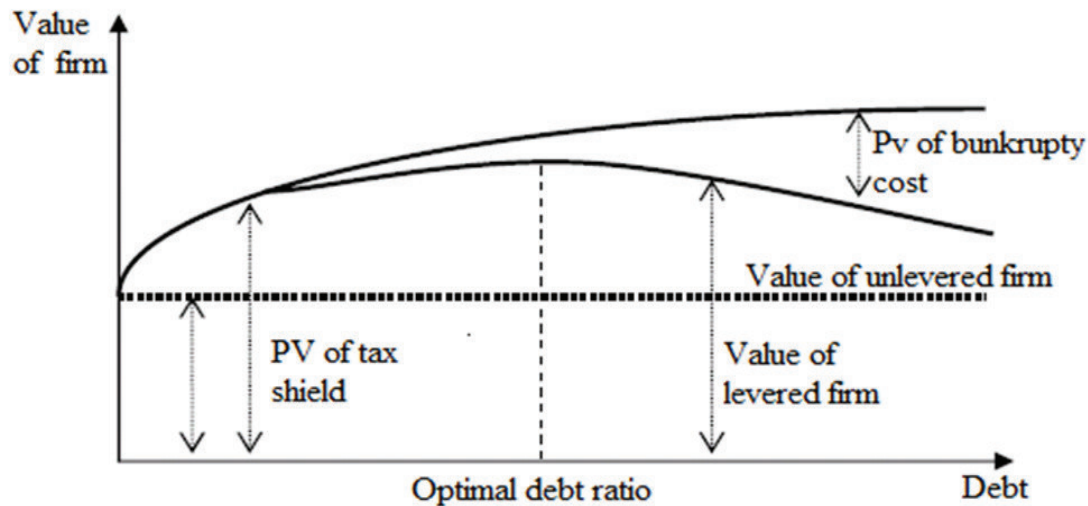

Figure 1, Source: Myers (1984: 577).

As can be seen from the above, the value of all equity firm is pecked at the broken horizontal line. But as more and more debts are added into the capital mix, the present value of interest tax shield increases at increasing rate than present value of bankruptcy cost until optimal debt ratio is achieved. At this point, the benefits of tax advantages are fully consumed by costs of financial distress (Myers, 1977; Fama & French, 2002; Ross et al. 1998). Therefore, any extra unit of debt employed above this point would result in present value of bankruptcy cost exceeding present value of interest tax savings; resulting decreases in value of the firm.

2.3 Pecking Order Theory

POP revolves on information asymmetry. Myers and Majluf (1984) believed there exist an information asymmetry between corporate executives and providers of funds and investors and shareholders. Management is always in the firm and have much information about the firm's operations, assets and future prospects that external parties may not be in the known. Because of this information gap, investors become riskier and therefore would require higher returns for their investment; making external financing more expensive than internal financing.

The POP prescribes a hierarchical order that managers follow in sourcing funds to finance profitable projects. First, managers would reinvest retained earnings at the expense of redistribution to equity shareholders as dividend payments. Where internal sources are not adequate, managers would fall on debts financing. Debt financing is relatively cheaper compared to equity financing; this is because interest payments qualify for tax deductibility and again, in solvency conditions, debt holders have higher claim to assets than equity shareholders. When debt securities are issued, it signals that the firm's stock is undervalued and implies profitable investment. However, issuance of equity shares to finance projects creates adverse signals of overvalued stock and that management are raising funds by diluting shares in the firm. The last option to consider, according to POT, is to fall on equity financing as measure of last resort.

2.4 Market Timing Theory

Baker and Wurgler (2002) found a strong correlation between capital structure of US firms and past market values and concluded that businesses should time issuance of equity based on the market valuations. Using market-to-book ratios as a measure of market valuations, firms could reduce their leverage by increasing issue of equity shares if market prices are higher than their book and historic market prices. Firm would do the reverse if market prices are lesser relative to the book and historic market prices i.e., increasing leverage through repurchases of equity shares. They concluded that low leveraged firms would raise funds when they have high market valuations whilst a highly geared firm would raise funds when their market valuation is low.

In other words, finance managers perceive a high stock prices relative to its book values as overvaluation of the firm's stock and low stock prices relative to book values and historic market prices as undervaluation of

firms. Graham and Harvey (2001) findings revealed that about 2/3rd of 392 Chief Finance Officers surveyed agreed that the extent to which their shares were under or overvalued was a vital factor in issuing stock. According to Baker and Wurgler (2002) the MTT is of two timeframe measures: the short-run and long-run measures. Leverage fluctuations were confirmed as being steered by market timing in the short-run but its persistence effect in the long-run could not be confirmed.

2.5 The Agency Costs Theory

The ACT suggests that, in business, there is a separation between owners and managers; and as a result, managers are placed in a fiduciary relationship with the business owners. Trust is placed in corporate managers to act in the best interest of owners by taking decisions that satisfy the wealth maximization interest of shareholders. In most often, this trust is broken: as management strives to advance decisions that maximizes their own interest at the expense of owners. According to Murphy (1985) there is positive correlation between managers' compensations and firms' growth. As a result, they are motivated to pursue growth strategies to the extent that sometimes they end up growing the business above its optimal capacity—eventually leading to creation of free cash flows.

Jensen (1986) propounded the agency theory. His theory opined that when there are free cash flows, managers have the tendency of investing them in project with negative net present values or with net present values below the firm's cost of capital instead of paying such free cash flows to shareholders as dividend payments. Again, at the expense of shareholders, managers may waste the free cash flows on perquisites. In order to reduce monitoring costs and agency costs, Jensen (1986) looked at the power of debts in resolving the agency problem through what he termed the "control hypothesis" for debt creation. As managers acquire more debts (whether through exchange of stock for debt or stock for cash), they are left with less free cash flows that would otherwise be spent unproductively. Debt arrangements also involve commitment on the part of managers to debts servicing; failure of which the firm may be sued in court.

This control effect of debts makes managers have less free cash flows to spend on perquisites, act efficiently and also pursue interest that benefit the organization as a whole bearing in mind that leveraged may lead to bankruptcy and they stand the chance of losing their jobs if the unexpected happens.

3.0 Empirical Literature Review

Abor (2005) conducted a research to examine the correlation between capital structure and profitability of companies listed on GSE over a five–year period. His findings revealed a significant positive relationship between capital structure (short term debt to total asset) and firms' profitability (return on equity). The relationship between total debt to total capital as a proxy for capital structure and return on equity (profitability) was found to be significantly positive; however, their findings posited a negative but significant relationship between long term debts and return on equity. Also, it was revealed that Ghanaian companies prefer short term debt to long term debt as his study pointed out that on the average, companies in Ghana will have 85% of total debts to be short term debts.

Ashraf et al. (2017) investigated the impact of capital structure has on profitability of firms in the cement industry in Pakistan. Their study used panel data collected and analyzed from 18 firms listed on Karachi Stock Exchange (KSE) over a 10–year period ranging from 2006 to 2015. Their study found a significantly inverse association between profitability measures (return on asset and return on equity) and capital structure measures (total debt to total asset and long-term debt to total asset ratios). Short term debt was found to have had a significantly positive correlations with return on asset and return on equity.

Niresh (2012) researched on the impact capital structure has on the profitability of listed banks in Srilanka from 2002 to 2009. He concluded that total debt is a significant determining factor of banks' profitability (measured by return on capital employed) in Srilanka. It was further noted that Srilankan banks were highly geared with debt to total capital proportion of 87%.

Sadiq and Sher (2016) researched on capital structure's impact on profitability of listed firms in automobile industry in Pakistan. 19 automobile companies listed on KSE were sampled and data collected from their publications and website of Stat Bank of Pakistan from 2006 to 2012 were analyzed through regression analyses. The SPSS result obtained indicated an inverse relationship between capital structure (debt/equity) and profitability measures (ROE, ROCE, ROE and Net Profit Margin).

Musah (2017) studied effect of capital structure on commercial banks' profitability in Ghana over a–six-year period beginning from 2010 to 2015. Panel data were gathered and analyzed from annual reports of 23 sampled banks through descriptive statistics, correlation and panel regression analyses. The findings indicated that Ghanaian banks are highly leveraged with debt financing representing 84% of total capital and short-term debt representing 77%. The study also revealed a positive relationship between total debts and profitability whilst short term and long-term debts inversely related with profitability.

Again, Amidu (2007) investigated the determining factors that influence capital structure of Ghanaian

banks. It was concluded that profitability, corporate tax, growth, assets' structure and bank size influence financial decisions of banks. He further supported the fact that Ghanaian banks are highly geared with debts comprising 87% of entire capital used in financing total assets; with short term debt representing more than 75% of banks' total capital.

Gatsi and Akoto (2010) conducted a study on capital structure and profitability of 14 banks in Ghana using panel regression methodology. They concluded that capital structure proxies (short term debts, long term debts and total debts) were insignificant in determination of profitability (ROE) in Ghana. They also confirmed the highly leveraged nature of Ghanaian banks by concluding that debts make up 87% of entire capital of banks: short term debts and long-term debt constituting 65% and 22% respectively.

3.0 Methodology
This part discusses the data collection and sampling techniques used, the research approach and description of variables employed, the conceptual framework as well as the model specification used in the study.

4.1 Data and Sample Size
The study used a 10–year secondary data on 5 randomly selected banks out of 9 banks on GSE at the time of the study. Data employed in the study were the audited financial statements spanning from 2010 to 2019 as published on the websites of GSE, the sampled banks and other financial statistics provided in annual Ghana Banking Survey Reports published by PriceWaterHouseCoopers. Specifically, the following banks were selected and panel data developed for the study: GCB Bank Limited, Ecobank Ghana Limited, Access Bank Ghana Limited, Standard Chartered Bank Ghana Limited and Societe Generale Ghana Limited. Panel data enhances efficiency because it combines both time series data and a cross-sectional data Again it has the advantage of identifying effects which are difficult to pinpoint when pure cross section or time series data are used.

4.2 Research Approach
The study employed both qualitative and quantitative approaches in the data analyses. Descriptive statistics was used in the qualitative approach to analyze numerically the summary characteristics of variables understudy. According to Saunders et al. (2007) statistics uses average indicators to summarize information in data. Correlational and multiple regression analyses were the main quantitative approaches used in examining the relationships among variables included in this study.

4.3 Description of Variables
In this study, banks' performance measure used is the EPS which serves as the criterion variable whilst STDTA, TDTA ratios are proxies for capital structure which serve as the predicative variables. Banks' size, deposit growth and banks liquidity serve as the control variables. Table 1 provides the description of proxies and their measurement used for the criterion and predicative variables:

Table 1: Variables' Descriptions

Variable	Symbol	Measurement
Criterion Variable:		
Earnings Per Share	EPS	(Profit After Tax - Preference Share Dividend) / Equity Shares
Predicative Variables:		
Short Term Debt to Total Asset Ratio	STDTA	Short Term Debt / Total Assets
Total Debt to Total Assets Ratio	TDTA	Total Debts / Total Assets
Control Variables:		
Banks' Size	BS	Natural logarithm of Total Assets
Deposit Growth	DG	$(Deposits_1 - Deposit_{1-t}) / Deposit_{1-t}$
Liquidity	LIQ	Liquid Funds / Total Interest-Bearing Liabilities

4.4 Conceptual Framework
From Table 1 above, a pictorial explanation is provided per the conceptual framework designed in Figure 2 to

explain diagrammatically how capital structure, together with other control variables, relates and influences performance of banks.
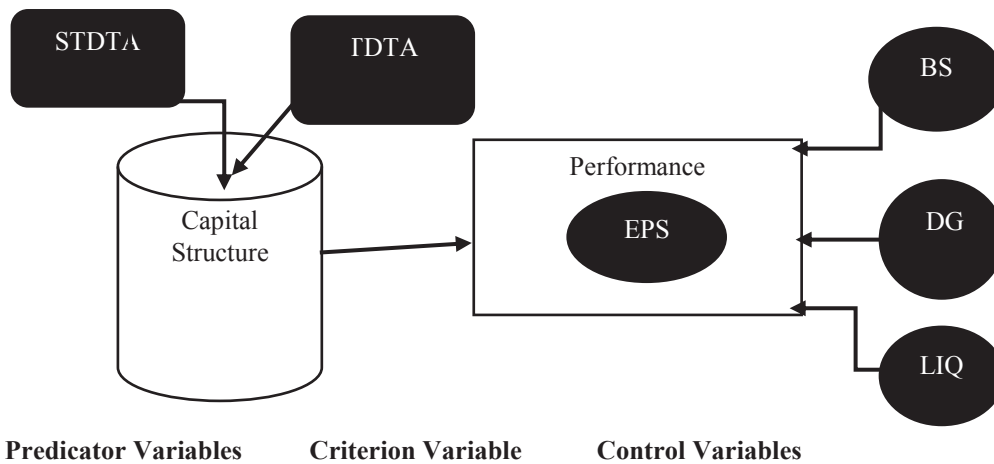

Figure 2: Conceptual Framework

4.5 Research Hypothesis
The following research hypothesis is developed:
H_0 = Capital structure has insignificant relationship with banks' performance.
H_1 = Capital Structure has significant relationship on banks' performance.

4.6 Model Specification
To establish relationship among the variables, a multiple linear regression model was formulated and the data was analyzed with the use of SPSS version 25. The base model took the following form:

$$Y_{it} = \beta_0 + \beta_1 X_{it} + \mu_{it}$$

Where:
Y_{it} =   criterion variable
β_0 =   intercept
β_1 =   slope or coefficient
X_{it} =   predicative variables
μ_{it} =   error term or variations unexplained by the model
i =   No. of banks or firms and
t =   No. of time periods.
Earnings per share:

$$EPS = \beta_0 + \beta_1 STDTA_{it} + \beta_2 TDTA_{it} + \beta_3 BS_{it} + \beta_4 DG_{it} + \beta_5 LIQ_{it} + \mu_{it}$$

5.0 Findings and Discussions
5.1 Descriptive Statistic
Table 2 gives the summary of variables' characteristics:
Table 2: Descriptive Statistics

	Mean	Std. Deviation	Min.	Max.	N
EPS	.6828	.61781	.02	2.09	50
STDTA	71.5716	8.44998	47.64	83.66	50
TDTA	85.1908	2.84124	79.55	92.76	50
DG	26.0536	18.50147	-.68	106.2	50
BS	21.8918	.80127	20.02	23.31	50
LIQ	.6450	.16163	.38	1.07	50

The results from SPSS output indicate that banks in Ghana have mean EPS of Ghc0.68 with minimum and maximum EPS being Ghc0.02 and Ghc2.09 respectively. It indicates that equity shareholders earn Ghc0.68 per share; assuming 100% dividend payout policy. Again, the averaged STDTA for the period under study is 71.57% with the highest and lowest being 47.64% and 83.66%. This suggests that banks in Ghana are highly geared (Abor, 2005; Amidu, 2007; Musah, 2017 and Gatsi & Akoto, 2010) and their capital structure is predominantly

made up of short-term debts i.e., customer deposits. TDTA has a mean value of 85.19% with the lowest and highest values being 79.55% and 92.76%; confirming the fact that Ghanaian banks are highly leveraged. For the control variables, lowest and highest values of DG are -0.68% and 106.2% with a mean value of 26.05% indicating the average growth in banks' deposit base over the period under study. The mean value for BS is 21.89 and has lowest of 20.02 and highest value of 23.31. Lastly, descriptive statistics of LIQ indicates a mean value of 0.645 with the minimum and maximum values being 0.38 and 1.07. This suggests that Ghanaian banks are not liquid. For every Ghc1.00 interest bearing liability, there is Ghc0.645 liquid funds available to settle the liability in event it becomes due now. It also suggests that most Ghanaian banks have adopted aggressive approach to liquidity management.

5.2 Multicollinearity

One of the assumptions under multiple regression is the issue of multicollinearity. It is assumed that all the independent variables do not correlate with each other and this helps to estimate the collective effect these independent variables have on the dependent variable without the result being skewed to toward a particular predicative variable. Correlational matrix could be used to detect the presence of multicollinearity. Generally, correlational coefficients of > 0.70 is considered as an indication of a high presence of multicolinearity. From Table 3 below, it is clear that there is no serious multicollinearity between the variables under discussion. All the values are below 0.70.

Table 3: Correlational Matrix

Correlational Matrix						
	EPS	STDTA	TATA	DG	BS	LIQ
EPS	1.000	0.304	-0.124	-0.171	0.622	0.543
STDTA	0.304	1.000	0.293	0.109	0.162	0.204
TDTA	-0.124	0.293	1.000	0.255	0.151	0.092
DG	-0.171	0.109	0.255	1.000	-0.118	-0.184
BS	0.622	0.162	0.151	-0.118	1.000	0.287
LIQ	0.543	0.204	0.092	-0.184	0.287	1.000

Table 4: Regression

Model Summary					
Model	N	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	50	.798	.637	.596	.39258

Table 5: Anova

Anova						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.922	5	2.384	15.471	.000
	Residual	6.781	44	.154		
	Total	18.703	49			

Table 6: Coefficients

Coefficients						
		Unstandardized Coefficients		Standardized Coefficients		
	Model	B	Std. Error	Beta	t	Sig.
1	(Constant)	-4.590	2.157		-2.129	.039
	STDTA	.017	.007	.231	2.373	.022
	TDTA	-.067	.022	-.310	-3.131	.003
	DG	.000	.003	.014	.142	.888
	BS	.405	.074	.525	5.437	.000
	LIQ	1.440	.374	.377	3.848	.000

5.3 Regression Analysis

From Table 4, R value of 0.798 implies a strong positive association between banks' performance and capital structure. The findings further reveal a coefficient of determination (R^2) of 0.637. This implies that 63.7%

variations in criterion variable (EPS) are explained or accounted for by the variables included in the model. The model depicts a $p = .000$ from Table 5 which is less than .05 at 5% level of significance; indicating that the model is significant statistically. The null hypothesis is therefore not supported. Table 6 displays the results of OLS regression analysis. Capital structure (measured by STDTA) has statistically significant positive relationship with bank's performance (EPS). This result is in line with Abor (2005) but not in agreement with Musah (2017). This connotes that as banks utilize more short-term debts (basically customer deposits) to fund their assets, their performances improve. This could be attributable to the fact that Ghanaian banks invest profitably the customers' deposits they mobilize. However, TDTA has a negative but statistically significant relationship with EPS. The finding supports that of Amidu (2007); Ashraf et al. (2017) and Sadiq and Sher (2016); however, it does not agree with that of Abor (2005). That means as more debt (total debts) are used to finance banks activities, the profitability (EPS) declines. For the control variables, banks' size and liquidity exhibited a statistically significant positive relationships with banks' performance. However, deposit growth of banks shows statistically insignificant relationship with performance.

6.0 Conclusion
The study explored the effect capital structure bears on performance of Ghanaian listed banks. The findings confirmed a positive relationship between EPS (performance measure) and capital structure (short term debt) which is statistically significant. However, the study concluded on a statistically significant inverse relationship between banks' performance and total debt. Banks in Ghana were found to be highly leveraged and employ more short-term debts (customer deposits) than other sources of finance. In summary, short term debts, liquidity and banks size (measured by deposit growth) influence performance of banks positively.

7.0 References

Abor, J. (2005). The effect of capital structure on profitability: An empirical analysis of listed firms in Ghana. *The Journal of Risk Finance, 6*(5), 438–445. https://doi.org/10.1108/15265940510633505

Ahmati, F. & Prenaj, B. (2015). A critical review of Modigliani and Miller's theorem of capital structure. *International Journal of Economics, Commerce and Management, III* (6), 914–924.

Amidu, M. (2007). Determinants of capital structure of banks in Ghana: An empirical approach. *Baltic Journal of Management, 2*(1), 67–79. https://doi.org/10.1108/17465260710720255

Ashraf, M., Ameen, A., & Shahzadi, K. (2017). The impact of capital structure on firm's profitability: A case of cement industry in Pakistan. *International Journal of Business and Social Science, 8*(4), 140–147.

Baker, M., & Wurgler, J. (2001). Market timing and capital structure. *Journal of Finance, 57*(1), 1–32.

Brounen, D. & Eichholtz, M. A. (2001). Capital structure theory: Evidence from European property companies' capital offerings. *Real Estate Economics, 29*(4), 615–632.

Danso, A., & Adomako, S. (2014). The financing behaviour of firms and financial crises. *Managerial Finance, 40*(12), 1159–1174. http://doi.org.10.1108/MF-04-2014-0098

DeAngelo, H. & Masulis, R. (1980). Capital Structure under corporate and personal taxation. *Journal of Financial Economics, 8*(1), 3–29.

Fama, E., & French, K. R. (2002). Testing trade-off and pecking order predictions about dividends and debts. *The Review of Financial Studies, 15*(1), 1–33. https://doi.org/10.1093/rfs/15.1.1

Fleming, G., Heaney, R., & McCosker, R. (2005). Agency costs and ownership structure in Australia. *Pacific-Basin Finance Journal, 13*(1), 29–52.

Fosberg, R. H. (2004). Agency problem and debt financing: Leadership structure effects. *Corporate Governance, 4*(1), 31–38. https://doi.org/10.1108/14720700410521943

Gatsi, J. G. & Akoto, R. K. (2010). Capital structure and profitability in Ghanaian banks. *SSRN*, https://dx.doi.org/10.2139/ssrn.1618952

Graham, J. R., & Harvey, C. R. (2001). The theory and practice of corporate finance: Evidence from the field. *Journal of Financial Economics, 60*(2-3), 187–243.

Jensen, M. C. (1985). Agency cost of free cash flows, corporate finance and takeovers. *American Economic Review, 76*(2), 323–329.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure, *Journal of Financial Economics, 3*(4) 305–360.

Kim, E. (1978). A mean-variance theory of capital structure and corporate debt capacity. *The Journal of Finance, 33*(1), 45–63.

Kraus, A., & Litzenberger, R. (1973). A state-preference model of optimal financial leverage. *The Journal of Finance, 28*(4), 911–922.

Lama, T. A., Sharifah, R. S. M. Z., & Jarita, D. (2014). The relationship between capital structure and performance of Islamic banks. *Journal of Islamic Accounting and Business Research, 5*(2), 158–181. http://dx.doi.org/10.1108/JIABR-04-2012-0024

Modgliani, F. & Miller, M. H. (1963). Corporate income taxes and the cost of capital: A correction. *American Economic Review, 53*(3), 433–443.

Modigliani, F., & Miller, M. (1958). The cost of capital, corporate finance and theory of investment. *American Economic Review, 48*(3), 261–297.

Modugu, K. P. (2013). Capital structure decision: An overview. *Journal of Finance and Bank Management, 1*(1), 14–27.

Murphy, K. J. (1985). Corporate performance and managerial remuneration: An empirical analysis. *Journal of Accounting and Economics, 7*(1–2), 11–42.

Musah, M. (2017). The impact of capital structure on profitability of commercial banks in Ghana. *Asian Journal of Economic Modelling, 6*(1), 21–36.

Myers, S. C. (1977). Determinants of corporate borrowing. *Journal of Financial Economics, 5*(2), 147–175.

Myers, S. C. (1984). The capital structure puzzle. *Journal of Finance, 39*(3), 574–592.

Myers, S. C., Majluf, N. S. (1984). Corporate Financing and investment decisions when firms have information those investors do not have. *Journal of Financial Economics, 13*(2), 187–221.

Niresh, J. N. (2012). Capital structure and profitability of Srilankan Banks. *Global Journal of Management and Business Research, 12*(13), 67–74.

Ogebe, O. P., Ogebe, J. O., & Alewi, K. (2013). The impact of capital structure on firms' performance in Nigeria. *MPRA Paper No. 461731.*

Ross, S. A., Westerfield, R. W., & Jordan, B. D. (1998). *Fundamentals of corporate finance.* (4th ed.). McGraw-Hill.

Saad, N. M. (2010). Corporate governance compliance and the effects to capital structure in Malaysia. *International Journal of Economics and Finance, 2*(1), 105–114.

Sadiq, M. N., & Sher, F. (2016). Impact of capital structure on the profitability of firms: Evidence from automobile sector of Pakistan. *Global Journal of Management and Business Research, 16*(1), 60–67.

Saunders, M., Lewis, P., & Thornhill, A. (2007). *Research methods for business students.* (4th ed.). Prentice Hall.