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The Impact of Capital Structure on Profitability of Banks Listed on the Ghana Stock Exchange

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Abstract
The purpose of this paper is to examine the impact of capital structure or leverage on profitability of listed banks stock exchange Ghana from 2007 to 2013. The concept of capital structure in finance explains the way a firm finances its assets/operations by the use of a blend of debt and equity. The blend of debt and equity would make banks more profitable bearing in mind the adverse effect of the extreme of each form of financing. Data was collected from Ghana stock exchange and the annual reports of the17 listed banks. Descriptive statistics and multiple regression models were used to analyze the data. The result revealed that the banks listed on the Ghana Stock Exchange are highly geared. This can be attributed to their over dependency on short term debt which is due to the relatively high Bank of Ghana Lending rate and low level of bond market activities. The study showed that financial leverage measured by short term debt to total assets (STDTA) had significant positive relationship with profitability measured by return on assets (ROA), return on equity (ROE) and earnings per share (EPS). Long Term Debt to Total Asset (LTDTA) also had a significant positive relationship with ROA and ROE but however, had a negative and insignificant relationship with EPS. Asset growth rate had a negative and insignificant relationship with profitability measured by ROA, ROE and EPS. Firm size also showed positive and significant relation with all the profitability measures such as ROA, ROE and EPS.
Keywords: Capital structure, Profitability, Multiple regression, Ghana stock exchange, Bank of Ghana.

1. Introduction

The amount of debt financing that a company can take without it affecting the company negatively has gone through a series of research. The interest of financial economists in the amount of debt a company can take was stimulated by Modigliani and Miller's (MM) breaking article published in 1958. They undertook their research under such assumptions as - no possibility exists for firms to go bankrupt, no corporate taxes exist and the total market value of the firm is unaffected by the amount of debt that it issues. Their research attracted other researchers such as Fama and Miller (1972), Hirshleifer (1966), Stiglitz (1969, 1974), Scott, J. (1979) and so on, who conducted further research on the topic to establish the correlation between capital structure and firm's value/ profitability under different and a more general assumptions. The proof of these brought clarity and controversy concerning the optimal debt policy of a corporation.

M & M's assumptions were made under a perfect capital market system and in the real world, these assumptions do not hold because corporate and personal tax, bankruptcy cost and signaling effect do exist. Scott, J. (1979) explained that the controversy worsens under the assumption of positive corporate tax rate and tax deductible interest payments because M & M's analysis implies that an optimal capital structure is to go entirely debt financing.

The legitimate question that arises from these streams of arguments then is how much debt/equity ratio should a company hold so as to remain solvent to meet its obligations as and when they fall due and also to have a good return on equity to keep on attracting investors. The optimal capital structure of a firm is determined by so many variables such as bankruptcy cost, signaling effect and so on. A firm's optimal debt ratio is mostly viewed as a tradeoff of the costs and benefits of borrowing, holding the firm's assets and investment plans constant (Myers S. 1984). A firm's goal is to balance the value of interest tax shields against various bankruptcy cost. There have been lots of controversies surrounding how valuable the tax shields are, and which, if any, when the costs of bankruptcy are significant. This opens for debate to what extend is a firm supposed to substitute debt with equity, or equity with debt for the value of the firm to be maximized? Several works have been done to find the optimal capital structure of a firm such as Scott J. (1976, 1977), Modigliani and Miller (1958), Malkiel (1967), and Myers (1984), but practically, firms are not able to find their optimal capital structure. Modigliani and Miller (1958) augured that a higher level of debt can improve the value of a firm if it can borrow at a lower interest rate than the cost of equity from investors. On the contrary, Stiglitz (1972) demonstrated that if debt is traded on separate markets in which investors are more pessimistic about the firm than its equity holders, then a larger increase in debt can lower the total value of the firm.

The profitability level of a company is among other things is largely influenced by its capital structure policies. Several works have been done on the relationship between capital structure and profitability of a firm. . From extant literature it has been found that there is a significantly positive correlation between the ratio of short-term debt to total assets and return on equity (Abor (2005), Kyereboah-Coleman (2007a), Berger and Bonaccorsi di Patti (2006), Chiang et al (2002)). There was however, a negative relationship between long-term

debt to total assets ratio and ROE. That notwithstanding, the overall ratio of total debt to total assets and return on equity was positive in the work of Abor, (2005) when he studied the profitability of firms listed on the Ghana stock exchange., Findings of Kyereboah-Coleman (2007) also revealed similar results, in which highly leveraged microfinance institutions performed better compared to lowly leverage microfinance institutions. Highly leveraged companies were also able to reduce agency cost by the debt compelling managers to act more in the interest of shareholders thereby increasing the value of the firm, (Berger and Bonaccorsi di Patti, 2006).

These findings contradicted with MM's (1958) prove of capital structure irrelevancy under very restrictive assumptions, perfect capital markets, homogenous expectations, no taxes, and no transaction costs that do not hold in the real world. According to MM, at any given level of debt, the return to stockholders is just commensurate with the risk assumed. Thus there is no net benefit to using financial leverage. However, their follow up publication which relaxed the assumption that no tax but corporate tax was tax deductible concluded that if all the other assumptions still holds, then the situation calls for hundred percent debt financing.

The issue now is what amount of debt/equity ratio should a firm have for profit maximization. This research work therefore seeks to find the correlation between capital structure and the performance of listed banks on the Ghana Stock Exchange.

Research Hypothesis

The tradeoff theory of leverage tries to find the point at which a firm's trade off benefits of debt financing (corporate tax treatment) against higher interest rates and bankruptcy cost are equal. It states that, the optimal capital structure will occur at a point where the marginal tax shelter benefits equals the marginal bankruptcy related cost. Fama and French (2002) state that by weighing the benefits of debt, tax deductibility of interest, and the costs of bankruptcy and agency conflicts, the optimal balance of debt and equity can be identified. Following the arguments above, it is hypothesized that:

H0 = Capital structure has no significant impact on banks profitability.

H1a = A bank's long-term debt to total asset (LTDTA) has significant impact on its Return on assets (ROA).
H1b= A bank's short-term debt to total asset (STDTA) has significant impact on its Return on assets (ROA).
H1c = A bank's total asset size (SIZE) as significant impact on its Return on assets (ROA).
H1d= A bank's asset growth rate (AGR) has significant impact on its Return on assets (ROA).

H2a = A bank's long-term debt to total asset (LTDTA) has significant impact on its Return on Equity (ROE).
H2b= A bank's short-term debt to total asset (STDTA) has significant impact on its Return on Equity (ROE).
H2c = A bank's total asset size (SIZE) as significant impact on its Return on Equity (ROE).
H2d= A bank's asset growth rate (AGR) has significant impact on its Return on Equity (ROE).

H3a = A bank's long-term debt to total asset (LTDTA) has significant impact on its Earnings Per Share (EPS).
H3b= A bank's short-term debt to total asset (STDTA) has significant impact on its Earnings Per Share (EPS).
H3c = A bank's to total asset size (SIZE) has significant impact on its Earnings Per Share (EPS).
H3d= A bank's asset growth rate (AGR) has significant impact on its Earnings Per Share (EPS).

2. Methodology

Data Collection:

The data for this study are financial statements from 2007 to 2013 of listed banks on the Ghana stock exchange. In all 49 observations or data points gathered. Analysis of data was done through descriptive statistics and regression models. In the study, three accounting based measures of performance were used.

Variable Definition:

The dependent variable in the research, profitability is determined by three accounting ratios namely ROA, ROE and EP as used by other researcher such Abor (2005) and Kyereboah-Coleman, A. (2007).The first measure was the return on assets (ROA) which was calculated by taking the ratio of net profit of the firm to the total assets of the firm. The second measure was return on equity (ROE), and it is calculated by taking the ratio of net profit of the firm to total equity. The third variable, earnings per share (EPS) was measured by taking the ratio net earnings to the number of shares. The independent variable capital is defined by four variables consisting of long-term debt to total asset (LTDTA), short-term debt to total asset (STDTA), and the control variables consist of firm size (SIZE) and asset growth rate (AGR).

2.2 Model Specification

Multiple regression models were used to find the correlation between mixed capital structure and profitability of banks listed on the Ghana Stock Exchange. Three regression models were used to check the relationship between capital structure and banks profitability. Our base models took the following form:

$Y_{it} = \beta_0 + \beta_1 X_{it} + \mu_{it}$
Where:
Y_{it} is the dependent variable.
β_0 is the intercept.
β_1 is the slope
X_{it} is the independent variable.
μ_{it} are the error terms or variations that cannot be explained by the above model.
i is the number of firms and
t is the number of time periods.
Return on asset:

$$ROA_{it} = \beta_{0it} + \beta_1 STDTA_{it} + \beta_2 LTDTA_{it} + \beta_3 SIZE_{it} + \beta_4 AGR_{it} + \mu_{it}$$

Return on equity

$$ROE_{it} = \beta_{0it} + \beta_1 STDTA_{it} + \beta_2 LTDTA_{it} + \beta_3 SIZE_{it} + \beta_4 AGR_{it} + \mu_{it}$$

Earnings per Share

$$EPS_{it} = \beta_{0it} + \beta_1 STDTA_{it} + \beta_2 LTDTA_{it} + \beta_3 SIZE_{it} + \beta_4 AGR_{it} + \mu_{it}$$

3. Analyses and Discussions of Results

3.1 Discussion of the Descriptive Statistics Results

The descriptive statistics of the dependent, independent and control variables are presented in Table 1. The total assets of the companies were divided by 100,000,000 each to determine whether the size of a company has a bearing on its profitability variables.

Table 1 Descriptive Statistics ROA, ROE, EPS, STDTA, LTDTA, SIZE, AGR

Variables	N	Mean	SD	Min	Max
ROA	49	0.0324	0.01414	0.0068	0.0696
ROE	49	0.2496	0 11251	0.0070	0.4998
EPS	49	0.4754	0.92855	0.0010	3.9700
STDTA	49	0.7335	0.19241	0.0009	0.8980
LTDTA	49	0.1168	0.15783	0.0000	0. 7491
SIZE	49	1.2214	1.00120	0.0759	4.6244
AGR	49	0.3611	0.28507	-0.3139	1.4379

It was revealed from the research that listed banks on the Ghana Stock Exchange were not performing quite well with a mean ROA of 3%. The standard deviation associated with the ROA was 0.01414. It implied that there was a relatively low risk of deviation away from the mean ROA. The ROA had a minimum return of about 0.68% and a maximum of 6.96%. With regards to ROE, the results indicated the mean annual ROE as 0.2496, implying that on the average, listed banks were generating a return of approximately 25% on equity investments of shareholders. The standard deviation of the ROE was also 0.11251 which indicated a relatively low disparity. The minimum ROE was 7% with a maximum return of 50%. This implied that, all other things being equal, equity holders can get at least 7% and a maximum of 50% on their equity investments. Again, the result for the average Earnings per Share (EPS) for the banks was 0.4754, indicating that on the average, equity holders earn 47% on each share of their equity investments. The standard deviation of the EPS was 0.92855 while the minimum EPS was 0.1% and the maximum 397%. From the profitability indicators, EPS gave the highest mean to investors and but with also the highest standard deviation. However, ROA and ROE indicators gave standard deviation just above 10% making them less risky.

Also, the results of the descriptive statistics in Table 1 show that, the average short term debt to total asset was 0.7335, which means that on the average 73% of the total assets, were financed by short term debt. The high figure can be attributed to the fact that banks were in the act of mobilizing funds through fixed deposit, savings and other deposit mobilizations methods in order to lend them out for profit. The standard deviation from this mean was 0.19241 showing relatively low disparity. The average long term debt to total asset was 0.1168, indicating that on the average the banks were financed by 12% long term debt. It can therefore be concluded that the total debt to total asset was averagely 85%, which meant that listed banks financed their operations by 85% debt.

Also for their Assets growth rate, it was revealed the listed banks had an average annual asset growth rate of about 36% with a standard deviation of 0.28507. The minimum growth rate was -31% with a maximum

growth rate of 144%. This implied that, all other things being equal, listed banks' asset grow by at least -31% and a highest growth rate of 144%.

3.2 Regression Analysis

The study sought to find out how capital structure affected the profitability of banks listed on the Ghana Stock Exchange. In an attempt to achieve that main objective, a linear multiple regression in a panel form was used. As indicated in the methodology, return on asset (ROA), return on equity (ROE) and earnings per share (EPS) were used as proxies for profitability and therefore are the dependent variables as used by other researchers such as Abor (2005) and Kyereboah-Coleman, A. (2007). These were predicted by three (3) independent variables (capital structure characteristics) which were; Short term debt to total asset (STDTA), Long Term Debt to Total Asset (LTDTA). The results for ROA, ROE and EPS are presented in tables below.

Regression Results of Return on Assets Function

Table 2.1 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.566a	0.321	0.259	0.0121767

Where a = Predictors: (Constant), AGR, STDTA, SIZE, LTDTA

Table 2.2 ANOVA

Model	Sum of squares	Df	mean square &	F	Sig.
Regression	0.003	4	0.001	5.194	0.002
Residual	0.007	44	0.000		
Total	0.010	48			

Dependent Variable: ROA
Predictors: (Constant), AGR, STDTA, SIZE, LTDTA

Table 2.3 Coefficients

Model	Unstandardized coefficients		Standardized coefficients	T	Sig.
	B	Std. Error	Beta		
(Const.)	-0.006	0.013		-0.458	0.649
STDTA	0.033	0.015	0.449	2.270	0.028
LTDTA	0.058	0.019	0.647	3.109	0.003
SIZE	0.008	0.002	0.536	3.948	0.000
AGR	-0.005	0.006	-0.108	-0.839	0.406

a) Dependent Variable: ROA
b) R-squared 0.321 Adjusted R-squared 0.259 F-statistics 5.194 (0.002)

3.3 Discussion of Regression Results for ROA Function

It can be seen from the regression results in Table 2.1 that the evaluation techniques are satisfactory. The adjusted R- squared value 0.259 indicates the goodness of fit of the regression model. It means that about 26% of variations in ROA were explained by the model. The F-statistics of 5.194, with a probability ratio of 0.002 indicates that the overall model was highly significant and that all the independent variables are jointly significant in causing variation in the dependent variable (ROA). The results of the diagnostics therefore indicate that the regression was not parodied and as such worth discussing.

The results as seen in table 2.3 show that, Long Term Debt (LTDTA) has positive relationship with Return on Asset (ROA). The result means that an increase in Long term debt results in an increase in performance of banks listed on the Ghana stock exchange. This result is in consistent with the findings of Kyereboah-Coleman & Biepke (2006), who documented a positive relationship between long term debt and firm performance for microfinance institutions. It is however in contradiction with the findings of Abor (2005) who documented a negative relationship between Long term debt to total asset and performance on listed companies in Ghana. The positive co-efficient of 0.058 implies that for a unit change in debt, financial, performance in terms of ROA will also increase by 0.058. In the same way, if long term debt is decreases by a unit, profitability

in terms of ROA will decrease by 0.058. The p-value of 0.002 meant that the positive relationship between Long term debt to total asset and profitability is highly significant at 5% significance level. It can therefore be concluded that in Ghana, Long term debt is a significant variable in influencing the profitability of listed banks in the positive way. This is also contrary to Berger and Bonaccorsi di Patti, (2006), findings that, there exist significantly a negative relationship with long term debt and firm's performance. The null hypothesis was that there is no significant relationship between capital structure and profitability. On the basis of the findings of this study, there is sufficient evidence to reject the null hypothesis in the case of ROA. The alternative hypothesis thus cannot be rejected. There is therefore a significant positive relationship between capital structure and profitability of banks that are listed on the stock Ghana Exchange (GSE).

The result in Table 2.3 also revealed that the probability value for STDTA is 0.028 which meant that STDTA as capital structure characteristics is significant at 5% significance level. The positive co-efficient of the variable indicated in the table as 0.033 implied that STDTA had positive relationship with ROA. The implication is that if STDTA variable should increased by a unit, the bank's profit as assessed by ROA would have also increased by 0.033. This result is in consistent with Abor (2005), Addae (2013) and Kyereboah-Coleman & Biepke (2006). The null hypothesis was therefore rejected as it stated that there was no significant relationship between capital structure and banks profitability. The alternative hypothesis thus cannot be rejected. There was therefore sufficient evidence of a significant positive relationship between capital structure and profitability of listed banks on the stock exchange (Ghana).

Firm size as a control variable shown in Table 2.3 had a co-efficient of 0.008. This result indicated that firm size had a positive relationship with ROA. The co-efficient of 0.008 can be interpreted as, if firm size increases by a unit, banks' financial performance as assessed by ROA would increase by 0.008. In the same way, if firm size decreases by a unit, banks' financial performance in terms of ROA would decrease by 0.008. This means that firm size does have significant relationship as far as financial performances of listed banks in Ghana are concerned. This is consistent with the findings of Bhagat and Black (2002) that, there exists no significant correlation between the degree of firm size independence and measures of firm profitability. The null hypothesis for the study was that there is no significant relationship between capital structure and banks profitability. On the basis of the discussion so far, the study concludes there is enough evidence to reject the null hypothesis with respect to ROA. The alternative hypothesis thus cannot be rejected. There is therefore a negative relationship between capital structure and profitability of banks even though it is not significant.

For that of Assets growth rate having a relationship with profitability measure (ROA), a negative co-efficient of -0.005 and a p-value of 0.406 were recorded. The positive co-efficient of 0.005 implied that if asset growth rate is increased by a unit, the profitability as assessed in terms of ROA will also increase 0.005 and vice versa. However, the p-value of 0.406 makes its insignificant at 5% significance level. The asset growth rate therefore had an insignificant positive relationship at 5% confidence level with profitability of listed banks in Ghana.

3.4 Discussion of Regression Results for ROE Function

For the ROE, the regression results in Table 3.1 show that the evaluation techniques are satisfactory. The R-squared and Adjusted R squared values of 0.395 and 0.340 respectively indicate the goodness of fit of the regression model. It means that about 34% of variations in profitability (ROE) were explained by the model. The F-statistics of 7175 with a probability value of 0.000 indicate that the overall model is highly significant and that all the independent variables are jointly significant in creating variation in the dependent variable (ROE). The results of the diagnostics therefore indicate, the regression was not misrepresented and thus is worth discussing.

Regression Results of Return on Equity Function

Table 3.1 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error
1	0.628[a]	0.395	0.340	0.0914208

a. Predictors: (Constant), AGR, STDTA, TDTA, SIZE, LTDTA

Table 3.2 ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	0.240	4	0.060	7.175	.000[a]
Residual	0.368	44	0.008		
Total	0.608	48			

a. Dependent Variable: ROE

b. Predictors: (Constant), AGR, STDTA, TDTA, SIZE, LTDTA

Table 3.3 Coefficients

Model	Unstandardized coefficients		Standardized coefficients	T	Sig.
	B	Std. Error	Beta		
(Const.)	-0.190	0.098		-1.943	0.058
STDTA	0.410	0.109	0.701	3.751	0.001
LTDTA	0.574	0.140	0.805	4.096	0.000
SIZE	0.060	0.014	0.535	4.178	0.000
AGR	-0.003	0.048	0.009	-0.073	0.942

R-squared 0.395, Adjusted R-squared 0.340 F-statistics 7.175 (0.000)

The results as seen in table 3.1 show that, Long Term Debt (LTDTA) has positive relationship with Return on Asset (ROE) and the p-value of 0.000 means that, the positive relationship between Long term debt to total asset and profitability is significant at 5% significance level. This means that in Ghana, Long term debt is a significant variable in influencing the profitability of listed banks. This result is consistence with the findings of Abor (2005) which had a positive relationship between Long term debt to total asset and ROE for listed firms in Ghana. The null hypothesis was that there is no significant relationship between capital structure and profitability. On the basis of the findings, the study thus rejected the null hypothesis in the case of ROE. The alternative hypothesis is thus accepted. There is therefore a significant positive relationship between capital structure and profitability of banks that are listed on the Ghana Stock Exchange (GSE) as measured by ROE.

The results in Table 3.3 also revealed that the probability value for STDTA is 0.001. This result indicates that STDTA as a capital structure characteristic is highly significant at 5% confidence level. The positive co-efficient of the variable indicated in the table as 0.410 implies that STDTA has positive relationship with ROE. The implication is that if the variable (STDTA) is increases by a unit, bank's profit as assessed by ROE also increase by $0.41. It was therefore concluded that STD contributes 41% to banks profit as measured by return on equity (ROE). The null hypothesis was therefore rejected as it stated that there is no significant relationship between capital structure and banks profitability with respect to ROE. The alternative hypothesis thus cannot be rejected. That is, there is a significant positive relationship between capital structure and profitability of listed banks on the stock exchange in Ghana.

The results also revealed that Asset growth rate has a negative relationship with profitability measure (ROE). The Asset growth rate has a negative co-efficient of 0.003 but a p-value of 0.942 makes it insignificant to influence profitability as measured by ROE. We therefore fail to reject the null hypothesis. Firm size has a p-value of 0.000 which makes it significant at 5% confidence level. With a positive co-efficient of 0.060 implies that if size of a bank increases by a unit the profitability as assessed in terms of ROE will also increase by 0.06 and vice versa. The study therefore rejected the null hypothesis that there is no association between capital structure and profitability based on the findings.

Regression Results for EPS Function

Table 4.1 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error
1	0.387[a]	0.150	-0.072	0.8944

a. Predictors: (Constant), AGR, STDTA, SIZE, LTDTA

Table 4.2 ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sig.
Reg.	6.189	4	1.547	1.934	.122[b]
Residual	35.197	44	0.008		
Total	41.386	48			

a. Dependent Variable: EPS

b. Predictors: (Constant), AGR, STDTA, TDTA, SIZE, LTDTA

Table 4.3 Coefficients

Model	Unstandardized coefficients		Standardized coefficients	t	Sig.
	B	Std. Error	Beta		
(Const.)	-0.875	0.958		-0.914	0.366
STDTA	1.383	1.069	0.286	1.294	0.202
LTDTA	1.400	1.370	0.238	1.022	0.312
SIZE	0.294	0.141	0.317	2.088	0.043
AGR	-0.516	0.467	-0.158	-1.104	0.276

a. Dependent Variable: EPS

3.5 Discussion of Regression Results for EPS Function

It can be seen from the regression results in Table 4.1 that the measurement techniques are satisfactory. The adjusted R- squared value 0.072 indicates the goodness of fit of the regression model. It means that about 7% of variations in EPS were explained by the model. The F-statistics of 1.934, with a probability ratio of 0.122 indicates that the overall model is significant at about 90% confidence level and that all the independent variables are jointly significant in causing variation in the dependent variable (EPS). The results of the diagnostics indicate that the regression was not misrepresented and as such worth discussing.

The result in Table 4.3 also shows that the probability values for STDTA and SIZE are 0.202 and 0.043 respectively. This result indicates that both STDTA and SIZE as capital structure characteristics are significant at 90% and 95% confidence level. The positive co-efficient of the variables indicated in the table as 1.383 and 0.294 implies that both STDTA and SIZE have positive relation with EPS. The implication is that if any of the variables increases by a unit, bank's profit as assessed by EPS increases by 1.383 and 0.294 respectively.

The results in table 4.3 also show that Long Term Debt (LTDTA), and Asset Growth Rate have p-values of 0.312 and 0.276, respectively and therefore are not significant at 95% confidence level. Thus suggest that LTDTA and AGR have no influence on profitability measured by EPS. The study therefore fails to reject the null hypothesis that there is no association between capital structure and profitability assessed by EPS.

Summary of Results	
Hypothesis	Statistical Conclusion
A bank's long-term debt to total asset (LTDTA) impact on its Return on assets (ROA).	Supported
A bank's short-term debt to total asset (STDTA) impact on its Return on assets (ROA).	Supported
A bank's size (SIZE) impact on its Return on assets (ROA).	Supported
A bank's asset growth rate (AGR) impact on its Return on assets (ROA).	Unsupported
A bank's long-term debt to total asset (LTDTA) impact on its Return on Equity (ROE).	Supported
A bank's short-term debt to total asset (STDTA) impact on its Return on Equity (ROE).	Supported
A bank' size (SIZE) impact on its Return on Equity (ROE).	Supported
A bank's asset growth rate (AGR) impact on its Return on Equity (ROE).	Unsupported
A bank's long-term debt to total asset (LTDTA) impact on its Earnings Per Share (EPS).	Unsupported
A bank's short-term debt to total asset (STDTA) impact on its Earnings Per Share (EPS).	Supported
A bank's size (SIZE) impact on its Earnings Per Share (EPS).	Supported
A bank's asset growth rate (AGR) impact on its Earnings Per Share (EPS).	Unsupported

4. Limitation and Future Direction

From regression tables above, it can be seen that the R-sqaures which measures the amount of variation in profitability that be predicted by knowing the capital structure ranges between 0.15 to .63 indicating that other

variables contribute to predicting the profitability of listed firm. This gives room for future studies to explore other factors such the composition of executive management and type of equity shareholders of listed firms that are known to contribute to the profitability of firms. Also, the data gathered from 2007 to 2013 for this study contains financial data of firms for the year 2008 which is know be a year of severe financial instability, following the 2008 global financial crisis. Therefore, the results of this study should be interpreted with caution. The results of this study are country and industry specific and are therefore not generalizable to all industry. Future studies could look to replicate this study in other industries to validate the model

5. Conclusion

The interest of financial economists in the amount of debt a company can take without it affecting the company negatively was stimulated by Modigliani and Miller's (MM) breaking article published in 1958 has gone through a series of research. MM undertook their research under such assumptions as – "no possibility exists for firms to go bankrupt and no corporate taxes exist, and that the total market value of the firm is unaffected by the amount of debt that it takes/issues". But these assumptions do not exist in real life situation. This study therefore sought out find the optimal capital structure with regards to profitability of firm under real world situation

The descriptive statistics showed that return on asset had a mean of 0.0324 with that of return on equity being 0.2500. The return on asset had a minimum value of 0.0068 and maximum of 0.0696 and the return on equity had minimum and maximum values of 0.0070 and 0.4998 respectively. Earnings per share also had a mean being 0.4754. It was concluded that listed banks in Ghana's operations are financed by 85% debt and 15% equity.

The statistical results revealed that the most consistent determinants of profitability of banks listed on the GSE are STDTA and the size of the firm. This is because STDTA and SIZE were the only characteristics that were significant with all the three variables used for profitability. They were positively significant with ROA, ROE and EPS. Long term debt also had positive direct relationships with ROA, ROE and EPS but the relationships was not significant for EPS at 95% confidence level. Asset growth rate (AGR) had an inverse and not significant relationship with all of the profitability indicators at 95% confidence level.

Managerial Implications: From the research, it was revealed that it is better for banks to finance their operations with more short term and long term debt rather done equity. However, it was revealed that increasing a firm's asset growth rate was detrimental to the profitability of listed banks.

Theoretical Contribution: Though the concept of capital structure has been considered in different situation very few studies specifically applied it to study financial industry like the banking sector in a developing economy. This study contributes to the literature by extending the concept of capture structure as determinant of profitable in the financial industry of a developing economy.

References

Abor, J. (2005), "The effect of capital structure on profitability: An empirical analysis of listed firms in Ghana", *Journal of Risk Finance, 6*, 438-445.

Abor, J. (2007), "Debt policy and performance of SMEs: Evidence from Ghanaian and South Africa firms", *Journal of Risk Finance,* Emerald Group Publishing Limited, Vol. 8 No. 4, pp. 364-379.

Adams, R.B. & Mehran, H., (2005). "Corporate Performance, Board Structure and its Determinants in the Banking Industry",*Working Paper,* EFA 2005, Moscow Meetings.

Amidu, M. (2007) "Determinants of Capital Structure of Banks in Ghana: an Empirical approach" *Baltic Journal of Management*, vol. 2 No 1, pp.67-69

Berger, A.N. & Bonaccorsi di Patti, E. (2006), "Capital structure and firm performance: a new approach to testing agency theory and an application to the banking industry", *Journal of Banking & Finance*, Vol. 30 No. 4, pp. 1065-102.

Bhagat, S. & Black, B. S., (2000), "Board Independence and Long-Term Firm Performance", *Working Paper*, University of Colorado.

Brounen, D., De Jong, A. & Koedijk, K. (2004), "Corporate finance in Europe: confronting theory with practice", *Financial management*, Vol. 33 No 4, pp 71 - 101.

Chiang, Y.A., Chang, P.C.A. & Hui, C.M.E. (2002), "Capital structure and profitability of property and construction sectors in Hong Kong", *Journal of Property Investment & Finance*, Vol. 20 No. 6, pp. 434-53.

Correia, C. & Cramer, P. (2008), "An analysis of cost of capital, capital structure and capital budgeting practices: a survey of South African listed companies", *Meditari accountancy research*, Vol. 16 No. 2, pp 31 - 52.

Eriotis N. P., Franguoli, Z., and Neokosmides, Z. V. (2002), "Profit Margin and Capital Structure: An Empirical Relationship", *J. Appl. Bus. Res,* Vol. 18 No. 2, pp 85-89.

Fama, E. and Miller, M. (1972), "The Theory of Finance", New York: Holt, Rinehart, and Winston.

Fama, E. & French, K. (2002), "Testing Trade Off and Pecking Order Predictions About dividends and debt:

The Review of Financial Studies, Vol. 15, pp. 1-33.

Hirshleifer, J. (1966), "Investment Decision under Uncertainty: Applications of the State-Preference Approach" *Quarterly Journal of Economics*, Vol. 80, No. 2, pp. 252-277.

Kyereboah-Coleman, A. (2007), "The impact of capital structure on the performance of microfinance institutions" *The Journal of Risk Finance*, Emerald Group Publishing Limited, Vol. 8 No. 1, pp . 56-71.

Miller, M. and Modigliani, F. (1958), "The Cost of Capital, Corporation Finance, and the Theory of Investment" *The America Economic Review*, Vol. 48, No. 3, pp. 261-297.

Miller, M. & Modigliani, F. (1961), "Dividend Policy, Growth, and the Valuation of Shares" *Journal of Business*, Vol. 34, No. 4, pp. 411-433.

Miller, M. & Modigliani, F. (1963), "Corporate Income Taxes and the Cost of Capital: A Correction" *The American Economic Review*, Vol. 53, No. 3, pp. 433-443.

Myers, S. (1984), "The Capital Structure Puzzle", *The Journal of Finance*, Blackwell Publishing for the American Finance Association, Vol. 39, No.3, pp. 575-592. http://www.jstor.org/stable/2327916

Scott, Jr.Source, James H. (1976), "A Theory of Optimal Capital: The Bell Journal of Economics, The RAND Corporation Stable, Vol. 7, No. 1 pp. 33-54.

Stiglitz, J. (1969). "A Reexamination of the Modigliani-Miller Theorem" *The American Economic Review*, Vol. 59, No. 5, pp. 784-793.

Stiglitz, J. E. (1972), "Some aspects of the Pure theory of Corporate finance: Bankruptcies and Takeovers" *Bell Journal of Economics and Management Science*, pp 458-482

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