

Capital Structure of Ghanaian Banks: An Evaluation of Its Impact on Performance

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The impact of debt structure on financial performance of banks in Ghana remains an important research issue. According to Ghana Banking Survey (2010), the assets of the banks have changed, competition has increased and return on equity has been falling. The present study, therefore, attempts to empirically investigate the impact of debt structure, which is an important component of capital structure, on the profitability of banks listed on the Ghana Stock Exchange, covering the period 2000-2010, using a relatively elongated panel dataset and a robust estimation technique. The study provides an empirical conclusion that listed Ghanaian banks use 80.23% debt and 17.77% equity, and hence the capital structure of Ghanaian banks is hugely skewed towards debt. However, the debt structure of listed Ghanaian banks indicates more than 81% short-term debt and less than 9% long-term debt. Thus, the impact of capital structure on financial performance of Ghanaian listed banks is such that short-term debt positively influences profitability and long-term debt negatively affects profitability.

Introduction

Capital structure and financial performance of firms have been studied worldwide with mixed results. Debt structure is an important part of capital structure discourse. Modigliani and Miller (1958 and 1963) made the first publication on capital structure to generate intense debate on the subject matter. Many studies on capital structure followed thereafter. Van Horne and Wachowicz (2008) identified debts, preferred stock and common stock as components of capital structure discourse. In reality, however, firms use only debt and common stock as the basis of their capital structure. Since the time of Modigliani and Miller (1963), the relationship between leverage and profitability has crystallized. Thus, for banks which are naturally highly geared firms, a study of capital structure and profitability is very important. Ravid and Sarig (1991), explained that Return on Assets (ROA) and Return on Equity (ROE) are key profitability metrics of firms.

Capital structure is considered to be under-researched in Ghanaian banks, even though the case is different in the developed economies. Capital structure is described as a combination of debt and equity in long-term financing of the operations of firms. The capital structure of Ghanaian banks is skewed towards more debt and less equity. This makes the influence of debt

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in the profitability studies of Ghanaian banks interesting. Debt is used to acquire long-term assets that generate revenue. Specific loans contracted by the banks and the deposits form the debt portfolio of banks. These debts are transformed into various short- and long-term assets called loan portfolio of the banks that generate interest income which is crucial in determining the income statement of banks. Both debt and equity of banks are managed within the prevailing macroeconomic environment. Therefore, the effects of Gross Domestic Product (GDP), inflation and exchange rates are crucial in providing an empirical effect of capital structure on the financial performance of Ghanaian banks.

How the capital structure is chosen and how the debt is managed within the prevailing macroeconomic environment to create value for stakeholders of banks is underpinned by the tenets of corporate governance. Corporate governance deals with effective decision making that ensures maximization of returns to stakeholders. The debt structure refers to the proportion of Short-Term Debt (STD) and Long-Term Debt (LTD). It is also about how both the debts affect profitability. The aim of this study is to empirically investigate the impact of capital structure on the financial performance of listed banks in Ghana, using a relatively more elongated dataset and a robust estimation technique.

Hypotheses

Saunders and Cornett (2004) explained that banking is a highly geared business which is exposed to risk. Banks may suffer maturity mismatch if efforts are not made to mobilize long-term funds to finance their loan portfolios.

The hypothesis uses financial performance ratios as metrics for profitability against debt ratios. This is informed by the proposition II of Modigliani and Miller, which indicates that there is a positive relationship between leverage and cost of equity. Cost of equity to shareholders is the required return, i.e., ROE. As per the DuPont Model, ROE can be decomposed into ROA, Net Interest Margin (NIM) and the equity multiplier (Berk and DeMarzo, 2007). ROE, therefore, serves as an important measure of financial performance and efficiency of management. Since ROA and NIM are all components of ROE from the DuPont model which decomposed the ROE into various ratios, then for this study, profitability is represented by ROA, NIM and ROE. The debt component of the capital structure is represented by STD, LTD and Total Debt (TD). Abor and Biekpe (2005) considered only sales growth and firm size as explanatory variables, while this study considers GDP, exchange rate and inflation also, which are the key macroeconomic variables that influence banking business. These new variables are important because the level of GDP impacts banking business and opportunities, while inflation and exchange rates feed into the interest rate which ultimately influences the lending rate, and hence the level of the net interest of banks. The size of the bank, growth in sales and increase in GDP all call for increased funding to support the growth which should result in profitability. Also, a stable exchange rate and inflationary situation provides a conducive business environment for banks to thrive. The hypotheses are clearly expressed below:

H_{1a} : ROE is positively related to STD.

H_{1b} : NIM is positively related to STD.

- H_{2a} : ROE is positively related to LTD.
- H_{2b} : NIM is positively related to LTD.
- H_{3a} : ROE is positively related to TD.
- H_{3b} : NIM is positively related to TD.
- H_{4a} : ROE is positively related to bank size.
- H_{4b} : NIM is positively related to bank size.
- H_{5a} : ROE is positively related to sales growth.
- H_{5b} : NIM is positively related to sales growth.
- H_{6a} : ROE is positively related to GDP.
- H_{6b} : NIM is positively related to GDP.
- H_{7a} : ROE is negatively related to inflation.
- H_{7b} : NIM is negatively related to inflation.
- H_{8a} : ROE is positively related to exchange rate.
- H_{8b} : NIM is positively related to exchange rate.

Data for the Study

In testing the hypotheses, *NIM* and *ROE* are taken as the dependent variables, while ratio of *STD* to *Total Capital*, ratio of *LTD* to *Total Capital*, debt to equity ratio, *ROA*, firm size and sales growth are considered as the independent variables for multiple regressions.

Both profitability and debt ratios are computed using the data extracted from the annual financial statements of the listed banks for the period 2000 to 2010. This means that a 11-year data is used which reflects the recent past performance of Ghanaian banks. The annual financial statements are compiled from the Ghana Stock Exchange Fact Book which reports the annual financial statements of listed firms in Ghana on a yearly basis.

Panel Data

The study uses the panel data approach. Stock and Watson (2007) described the panel data to be synonymous with longitudinal data such that each data is observed from a cross-sectional perspective. This is statistically prudent because the ratios that represent the dependent and independent variables correspond to different time series for different banks over the study period.

Dependent Variables

In this study, profitability ratios—*ROA*, *ROE* and *NIM*—are the dependent variables. *ROE* is an important measure of profitability because it indicates how much of the profit is distributed to shareholders. At the same time, it indicates or signals the efficiency of management in generating returns for shareholders who are overly concerned with value maximization.

Independent Variables

Debt ratios and control variables are independent variables.

Debt Ratios

Ratio of *STD* to *Total Capital*: *STD* is expressed as a ratio of total capital to determine how much *STD* is used to finance the activities of the listed banks in Ghana and how would this affect the profitability over the years. A positive relationship is expected when the dependent variables are regressed against this variable in line with the fact that banks are heavily leveraged but mostly with respect to deposits which tend to be short-lived.

Ratio of *LTD* to *Total Capital*: This ratio determines the degree to which listed Ghanaian banks use *LTD* to finance their activities and how this reflects the profitability measures over time. Since banks tend to utilize more deposits, it is expected that an inverse relation exists between the dependent variables and this ratio.

Ratio of *TD* to *Total Capital*: The focus of capital structure is the use of *TD* against equity to influence profitability. This ratio measures the extent to which bank operations are financed by *TD*. The expected relation between the dependent variables and this ratio is negative.

Control Variables

Firm Size: According to Abor and Biekpe (2005), firm size contributes to firm profitability and large firms have greater opportunity to take on more debts to finance their operations. In using the size of the firm as a control variable for the study, natural logarithm of the assets over the study period is covered by the study.

Sales Growth: Sales growth is also significantly important in that from capital structure theories, such as pecking order theory and information asymmetry, there is a relationship between profitability and sales growth.

Other control variables are *GDP* and *inflation*. *GDP* is important because the overall economic activities affect the banking business. During the period of flourishing economic activity, demand for finance from banks increases to finance various needs of the deficit units in the economy. Inflation spells out the rate at which prices of goods and services change over a period of time. This feeds into the level of interest rate, and hence the lending rate of banks. The variables used in the study are presented in Table 1, and the data for the computation of ratios are presented in Appendix.

Model Specification

The model representing the dependent and independent variables is specified below:

$$Y_{i,t} = \beta_0 + \beta_1 STD_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 SG_{i,t} + \beta_4 EX_{i,t} + \bar{e}_{i,t} \quad \dots(1)$$

$$Y_{i,t} = \beta_0 + \beta_1 LTD_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 SG_{i,t} + \beta_4 EX_{i,t} + \bar{e}_{i,t} \quad \dots(2)$$

$$Y_{i,t} = \beta_0 + \beta_1 TD_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 SG_{i,t} + \beta_4 EX_{i,t} + \bar{e}_{i,t} \quad \dots(3)$$

where

- $Y_{i,t}$ = ROE, ROA and NIM for firm i in time t
 $STD_{i,t}$ = Short-Term Debt for firm i in time t
 $LTD_{i,t}$ = Long-Term Debt for firm i in time t
 $TD_{i,t}$ = Total Debt for firm i in time t
 $SIZE_{i,t}$ = Firm Size for firm i in time t
 $SG_{i,t}$ = Sales Growth for firm i in time t
 $EX_{i,t}$ = GDP, Inflation and Exchange Rate for firm i in time t
 $\bar{e}_{i,t}$ = Error Term

Table 1: Summary of Dependent and Independent Variable Relationships			
Category	Variables	Measurement or Ratio Used	Expected Association Between Dependent and Independent Variables
Respondent Variables	<i>ROA</i>	$\frac{\text{Net Income}}{\text{Total Assets}}$ (After-Tax Profit per Cedi of Assets)	Positive
	<i>ROE</i>	$\frac{\text{Pre-Tax Profit}}{\text{Total Equity}}$ or Net Income	Positive
	<i>NIM</i>	$\frac{\text{Net Income}}{\text{Sales}}$ (After-Tax Profit per Cedi of Sales)	Positive
Independent Variables	<i>STD</i>	$\frac{\text{Short-Term Debt}}{\text{Total Capital}}$	Positive
	<i>LTD</i>	Long-Term Debt/Total Capital	Positive
	<i>TD</i>	$\frac{\text{Short + Long-Term Debt}}{\text{Total Capital}}$	Positive
	<i>Size</i>	Log of Total Assets	Positive
	<i>Sales Growth</i>	% change in net interest income	Positive

Empirical Analysis

The analysis is based on the Generalized Least Square (GLS) regression in which profitability ratios (*ROA*, *ROE* and *NIM*) are served as dependent variables, and leverage ratios (*STD* to total capital, *LTD* to total capital and *TD* to total capital) are served as independent variables. Sales growth, firm size, GDP, inflation and exchange rate are used as control variables.

From Table 2, it is observed that the average *ROE* for the listed banks is 40.40% which is well above the industry average of about 28%, as indicated in the 2010 Ghana Banking Survey for both listed and non-listed banks. This implies that on an average, shareholders of the listed Ghanaian banks may receive a return of 40.40%. *ROA* averaged to 6.39% over the study period. The rather low *ROA* is indicative of competition in the banking industry. This requires listed banks to adopt forward-looking strategies to remain profitable. The high *NIM* of about 77.38% may be attributed to high interest rate in the Ghanaian banking industry, which led to improved interest income of the banks. This is indicative of the positive relationship between high interest rate caused by high inflation; however, there is a high downstream risk associated with huge non-performing loans, mainly attributed to indigenous firms. This implies that with reduced interest rate and stable economic environment, banks may have to diversify their business portfolio to increase non-interest income such as investment in new businesses rather than loans and treasury bill investments. The averages of firm size (6.93%) and sales growth (26.58%) seem to be in consonance with the results of earlier studies on the banking industry (Abor and Biekpe, 2005; and Amidu, 2007).

GDP, *inflation* and *exchange rate* do affect the entire economic activities in Ghana, including banking. Over the study period, *GDP* averaged 5.19% with *inflation* at 18.08%. The average

Variables	Observations	Mean	Minimum	Maximum	Standard Deviation
<i>ROA</i>	77	6.389	0.040	14.125	3.641
<i>ROE</i>	77	40.396	3.963	108.360	26.126
<i>NIM</i>	77	77.375	4.505	401.821	62.554
<i>STD</i>	77	72.196	9.580	92.585	26.315
<i>LTD</i>	77	8.015	0.000	75.189	16.705
<i>TD</i>	77	80.231	26.773	93.922	18.059
<i>Firm Size</i>	77	6.929	4.556	9.325	1.252
<i>Sales Growth</i>	77	26.578	-305.675	151.562	50.721
<i>GDP</i>	11	5.191	3.700	6.500	0.969
<i>Inflation</i>	11	18.082	10.700	40.500	8.241
<i>Exchange Rate (GH¢ to US\$)</i>	11	0.987	0.689	1.400	0.234

GDP of 5.19% provides ample business opportunities in Ghana that attract bank finance. The average inflation of 18.08% is also manageable since this rate dropped from about 40.5% in 2000. An exchange rate of 0.987 is also favorable for banking business.

Again, from Table 2, the descriptive statistics show that listed Ghanaian banks utilized more *STD* to finance their operations than *LTD*. The *STD* of about 72.20% indicates that banks source their funding mostly from savings and deposits which are short-term in nature. This is also a confirmation as to why listed Ghanaian banks have not recorded any issuance of bonds which is a typical long-term fund. This may also pose some risk to the banks since there may be maturity mismatch. The average *LTD* utilized by listed Ghanaian banks was 8.02%, while the *TD* was 80.23%. This implies that *LTD* accounts for less than 9% of the financing of banking operations. This also indicates that *STD* contributed more in financing assets of the banks than *LTD*. Though banks are highly levered, their debt structure does not follow what is expected within the framework of Modigliani and Miller (1963) where leverage is skewed towards *LTD*. The average *TD* of 80.23% implies that listed banks in Ghana use more debt to finance their operations than equity, which averaged 12.66%. This also shows that Ghanaian banks are indeed highly levered. This demands that banks engage in proper asset and portfolio management to mitigate any risks associated with leverage.

The correlation matrix in Table 3 indicates whether there is a positive or negative relationship between dependent variables on the one hand and the independent and control variables on the other. This is important as it shows whether there is any relationship between indicators of capital structure and profitability. From Table 3 it is observed that *ROA* is negatively related to both *TD* and *STD* and the relationship is significant. *ROA* is, however, positively related to *LTD* but not statistically significant. *ROA* is negatively related to *GDP* and firm size, but is not statistically significant. *ROA* is positively related to sales growth and negatively related to exchange rate; however, the relationship between sales growth and *ROA* is not significant, while that between *ROA* and exchange rate is significant. Inflation is positively related to *ROA* but not significant, implying that high inflation has the possibility of increasing *ROA* and a fall in inflation is likely to reduce *ROA* which is a measure of profitability.

ROE, on the other hand, is significantly and positively related to *STD* and *TD*. Exchange rate, *LTD* and firm size are negatively and significantly related to *ROE*, while both sales growth and inflation are positively but insignificantly related to *ROE*. However, *ROE* is insignificantly but negatively related to *GDP*.

NIM is significantly and positively related to *STD* but insignificantly and positively related to inflation. *NIM* is, however, significantly and negatively related to sales growth, firm size and *TD*. This implies that an increase in sales growth, *TD* and firm size is likely to result in a fall in *NIM*. Also, exchange rate, *GDP* and *LTD* are negatively and insignificantly related to *NIM*. It is important to note that a negative relationship between dependent variable and independent variable implies that if the dependent variable increases then the independent variable decreases.

From Table 4 it is observed that *ROA* is significantly and negatively related to *STD* with a probability of 0.000. This means that an increase in *STD* may lead to a decrease in *ROA*. There

Table 3: Correlation Matrix for Dependent and Independent Variables

Variables	ROA	ROE	NIM	STD	LTD	TD	Firm Size	Sales Growth	GDP	Inflation	Exchange Rate
ROA	1										
ROE	0.413 (0.000)	1									
NIM	0.581 (0.000)	0.283 (0.013)	1								
STD	-0.369 (0.001)	0.519 (0.000)	0.265 (0.020)	1							
LTD	0.078 (0.501)	-0.357 (0.001)	-0.163 (0.157)	-0.734 (0.000)	1						
TD	-0.467 (0.000)	0.425 (0.000)	-0.537 (0.000)	0.778 (0.000)	-0.145 (0.207)	1					
Firm Size	-0.250 (0.028)	-0.396 (0.000)	-0.512 (0.000)	-0.208 (0.069)	0.370 (0.001)	0.038 (0.744)	1				
Sales Growth	0.075 (0.518)	0.148 (0.200)	-0.479 (0.000)	0.158 (0.169)	-0.047 (0.687)	0.189 (0.101)	0.184 (0.110)	1			
GDP	-0.247 (0.030)	-0.204 (0.075)	-0.025 (0.826)	0.040 (0.729)	-0.079 (0.495)	-0.015 (0.897)	0.098 (0.397)	-0.095 (0.410)	1		
Inflation	0.294 (0.009)	0.271 (0.017)	0.033 (0.776)	-0.029 (0.801)	0.084 (0.466)	0.034 (0.767)	-0.133 (0.250)	0.186 (0.105)	-0.598 (0.000)	1	
Exchange Rate	-0.435 (0.000)	-0.421 (0.000)	-0.073 (0.526)	0.046 (0.689)	-0.128 (0.268)	-0.049 (0.675)	0.135 (0.242)	-0.144 (0.210)	0.105 (0.365)	-0.426 (0.000)	1
Note: Correlation is significant at 5% (2-tailed); Significant values are given in brackets.											

Variables	1		2		3	
	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.
<i>Firm Size</i>	-0.892	0.002	-0.684	0.045	-0.534	0.031
<i>Sales Growth</i>	0.010	0.150	0.004	0.603	0.010	0.127
<i>GDP</i>	-0.646	0.136	-0.705	0.151	-0.749	0.149
<i>Inflation</i>	-0.017	0.768	-0.012	0.847	-0.013	0.842
<i>Exchange Rate (GH¢ to US\$)</i>	-5.470	0.001	-5.816	0.002	-6.345	0.001
Constant	25.677	0.000	20.452	0.000	28.426	0.000
<i>STD</i>	-0.060	0.000				
<i>LTD</i>			0.023	0.349		
<i>TD</i>					-0.102	0.000
R^2	0.432		0.272		0.511	
Wald $\chi^2(6)$	53.120		26.200		61.650	
Prob. > χ^2	0.000		0.000		0.000	
Note: Significant at 5% level; 1, 2 and 3 represent regression results for <i>STD</i> , <i>LTD</i> and <i>TD</i> .						

is insignificant but positive relationship between *ROA* and *LTD* with a probability of 0.349. Thus, an increase in *LTD* may result in an increase in *ROA* for the banks. Again, *ROA* is negatively, but significantly, related to *TD*. Hence, any increase in *TD* may result in reduction in *ROA*. This indicates that improper management of *TD* may generate downward performance of *ROA*. This shows that with respect to *STD*, the expected hypothesis is not met, hence we reject the hypothesis that *ROA* is positively related to *STD* and *TD* of the listed Ghanaian banks.

For the control variables, firm size and exchange rate are negatively, but significantly, related to *ROA*. However, *GDP* and inflation are negatively and insignificantly related to *ROA*, though sales growth is insignificantly but positively related to *ROA*.

Table 5 indicates that *ROE* is significantly and positively related to *STD* with a probability of 0.000, *TD* with a probability of 0.000 and exchange rate with a probability of 0.000. This

Variables	1		2		3	
	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.
<i>Firm Size</i>	-4.924	0.006	-4.653	0.033	-7.771	0.000
<i>Sales Growth</i>	0.023	0.603	0.053	0.289	0.043	0.351
<i>GDP</i>	-4.599	0.115	-4.673	0.136	-3.779	0.234

Table 5 (Cont.)

Variables	1		2		3	
	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.
<i>Inflation</i>	-44.475	0.827	-0.092	0.820	-0.116	0.778
<i>Exchange Rate (GH¢ to US\$)</i>	10.812	0.000	-46.074	0.000	-37.913	0.001
Constant	108.182	0.000	146.791	0.000	105.127	0.001
<i>STD</i>	0.484	0.000				
<i>LTD</i>			-0.521	0.001		
<i>TD</i>					0.587	0.000
R^2	0.548		0.424		0.494	
Wald $\chi^2(6)$	82.400		51.450		64.530	
Prob. > χ^2	0.000		0.000		0.000	
Note: Significant at 5% level; 1, 2 and 3 represent regression results for <i>STD</i> , <i>LTD</i> and <i>TD</i> .						

means that an increase in *STD*, *TD* and appreciation of the Ghanaian cedi may lead to an increase in *ROE*. There is a significant but negative relationship between *ROE* and *LTD* with a probability of 0.001. Thus, an increase in *LTD* may result in reduction in *ROE* for the banks. Again, *ROE* is negatively, but insignificantly, related to *GDP*. This shows that with respect to *STD*, *TD* and exchange rate, the expected hypothesis is met; hence we accept the hypothesis that *ROE* is positively related to *STD* and *TD* of listed Ghanaian banks. However, the hypothesis that *ROE* is positively related to *LTD* is not supported by the regression result, hence we reject the hypothesis.

From Table 6 it is observed that *NIM* is significantly and negatively related to *STD* with a probability of 0.000. This means that an increase in *STD* may lead to a decrease in *NIM*. There is an insignificant but negative relationship between *NIM* and *LTD* with a probability of 0.657. Thus, an increase in *LTD* may result in reduction in *NIM* for the banks. Again, *NIM* is

Table 6: Actual Regression Results of *NIM*

Variables	1		2		3	
	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.
<i>Firm Size</i>	-25.471	0.000	-20.142	0.000	-21.002	0.000
<i>Sales Growth</i>	-0.421	0.000	-0.522	0.000	-0.406	0.000
<i>GDP</i>	1.119	0.871	-0.386	0.959	-0.186	0.975
<i>Inflation</i>	0.116	0.897	0.206	0.833	0.147	0.851
<i>Exchange Rate (GH¢ to US\$)</i>	-9.229	0.718	-19.687	0.484	-20.879	0.347
Constant	320.379	0.000	249.872	0.000	381.366	0.000

Table 6 (Cont.)

Variables	1		2		3	
	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.
STD	-0.750	0.000				
LTD			-0.170	0.657		
TD					-1.605	0.000
R ²	0.510		0.423		0.628	
Wald $\chi^2(6)$	72.920		51.220		118.110	
Prob. > χ^2	0.000		0.000		0.000	
Note: Significant at 5% level; 1, 2 and 3 represent regression results for STD, LTD and TD.						

negatively and significantly related to TD with a probability of 0.000. Hence, any increase in TD may result in a decrease in NIM. This shows that with respect to STD, LTD and TD, the expected hypothesis is not met; hence we reject the hypothesis that NIM is positively related to STD, LTD and TD of the listed Ghanaian banks.

Both firm size and sales growth are negatively and significantly related to NIM; however, both GDP and inflation are positively and insignificantly related to NIM. Exchange rate is negatively and insignificantly related to NIM. This implies that with depreciation of the Ghanaian cedi, NIM may fall for the listed banks.

Conclusion

The study provides an empirical conclusion that listed Ghanaian banks use 80.23% debt and 17.77% equity and therefore the capital structure of Ghanaian banks is hugely skewed towards debt. However, the debt structure of listed Ghanaian banks indicates more than 70% short-term debt and less than 9% long-term debt. Thus, the impact of capital structure on the profitability of Ghanaian listed banks is such that short-term debt positively influences profitability and long-term debt negatively affects profitability.

References

1. Abor J and Biekpe N (2005), "What Determines the Capital Structure of Listed Firms in Ghana?" *African Finance Journal*, Vol. 7, No. 1, pp. 37-48.
2. Amidu M (2007), "Determinants of Capital Structure of Banks in Ghana: An Empirical Approach", *Baltic Journal of Management*, Vol. 2, No. 1, pp. 67-79.
3. Berk J and DeMarzo P (2007), *Corporate Finance*, Second Edition, Global Edition.
4. Modigliani F and Miller M (1958), "The Cost of Capital, Corporate Finance and the Theory of Investment", *American Economic Review*, Vol. 48, June, pp. 261-297.
5. Modigliani F and Miller M (1963), "Corporate Income Taxes and the Cost of Capital: A Correction", *American Economic Review*, Vol. 53, No. 3, pp. 433-443.

6. Ravid A S and Sarig O H (1991), "Financial Signalling by Committing to Cash Outflows", *Journal of Financial and Quantitative Analysis*, Vol. 26, No. 2, pp. 165-180.
7. Saunders A and Cornett M M (2004), *Financial Markets and Institutions: A Modern Perspective*, 2nd Edition, McGraw-Hill, Boston.
8. Saunders M, Lewis P and Thornhill A (2003), *Research Methods for Business Studies*, Prentice Hall, UK.
9. Stock J H and Watson M W (2007), *Introduction to Econometrics*, Prentice Hall, UK.
10. Van Horne C and Wachowicz John M (2008), *Fundamentals of Financial Management*, Prentice Hall, UK.

Appendix

CAL Bank											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<i>ROA</i>	4.77	5.31	7.16	5.74	5.53	4.59	4.33	3.02	3.39	2.32	2.47
<i>ROE</i>	32.61	35.06	52.22	45.54	27.49	24.29	31.73	22.88	30.72	18.00	15.99
<i>NIM</i>	70.80	78.00	114.75	100.02	92.89	55.01	72.02	59.11	69.98	46.45	33.98
<i>STD to TC</i>	86.44	84.85	86.29	87.40	79.89	81.12	86.35	86.80	88.96	87.10	82.99
<i>LTD to TC</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>TD to TC</i>	86.44	84.85	86.29	87.40	79.89	81.12	86.35	86.80	88.96	87.10	84.55
<i>E to TC</i>	13.56	15.15	13.71	12.60	20.11	18.88	13.65	13.20	11.04	12.90	15.45
<i>Firm Size</i>	5.49	5.49	5.61	5.77	5.92	5.99	6.20	5.37	5.53	5.66	5.71
<i>Sales Growth</i>	15.03	6.34	21.14	32.05	45.67	64.85	16.62	27.47	36.48	37.76	63.80
GCB											
<i>ROA</i>	7.91	7.80	6.07	4.23	4.17	3.97	5.03	4.07	3.01	1.07	4.32
<i>ROE</i>	74.71	86.41	64.48	43.55	38.85	32.20	42.67	26.55	23.93	10.15	36.46
<i>NIM</i>	76.97	50.61	55.29	37.48	39.11	33.35	44.86	52.12	37.65	15.67	32.12
<i>STD to TC</i>	89.41	90.98	90.58	90.28	89.26	87.68	88.21	84.68	87.41	89.42	88.15
<i>LTD to TC</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>TD to TC</i>	89.41	90.98	90.58	90.28	89.26	87.68	88.21	84.68	87.41	89.42	88.15
<i>E to TC</i>	10.59	9.02	9.42	9.72	10.74	12.32	11.79	15.32	12.59	10.58	11.85
<i>Firm Size</i>	6.36	6.58	6.67	6.71	6.75	6.77	6.89	9.06	9.22	9.28	9.32
<i>Sales Growth</i>	94.75	151.56	-13.11	12.83	4.02	17.12	24.73	3.07	46.55	-0.26	115.85

Appendix (Cont.)

HFC Bank (Ghana) Ltd.											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
ROA	12.94	2.91	12.92	3.47	4.07	1.38	1.70	1.76	2.20	2.70	2.29
ROE	23.82	21.49	17.46	19.47	23.85	8.78	15.97	20.76	28.85	20.97	10.35
NIM	24.56	15.52	12.46	21.53	24.65	9.93	14.49	11.95	23.31	14.32	32.94
STD to TC	9.58	21.02	22.42	26.16	32.28	43.02	58.41	84.64	78.64	64.15	58.80
LTD to TC	75.19	67.12	64.32	56.02	50.64	41.24	30.92	3.92	13.75	23.01	19.07
TD to TC	84.77	88.15	86.74	82.18	82.92	84.27	89.33	88.56	92.39	87.15	77.87
E to TC	15.23	11.85	13.26	17.82	17.08	15.73	10.67	11.44	7.61	12.85	22.13
Firm Size	7.78	8.44	7.80	8.72	8.78	8.85	9.03	8.21	8.58	8.42	8.50
Sales Growth	76.39	60.78	14.39	42.25	18.14	-0.12	28.52	88.38	49.05	37.90	44.88
Stanchart											
ROA	4.81	7.30	7.15	7.60	6.93	6.92	6.25	3.07	4.45	10.82	6.09
ROE	79.13	80.44	77.16	72.84	68.85	54.66	61.12	48.84	49.00	52.46	51.80
NIM	77.35	62.95	75.37	88.87	86.55	80.29	80.16	67.31	57.48	70.10	66.46
STD to TC	91.73	87.75	87.62	88.23	88.41	87.01	84.47	88.20	90.83	88.64	88.25
LTD to TC	2.19	3.18	3.10	1.34	1.52	0.38	5.35	0.38	0.09	0.00	0.00
TD to TC	93.92	90.93	90.73	89.57	89.93	87.39	89.82	88.58	90.92	88.64	88.25
E to TC	6.08	9.07	9.27	10.43	10.07	12.61	10.18	11.42	9.08	11.36	11.75
Firm Size	6.50	6.36	6.48	6.59	6.64	6.71	6.84	6.15	5.99	5.89	6.22
Sales Growth	55.77	35.25	7.90	16.84	5.47	25.31	23.06	18.10	18.91	56.58	27.91
SG-SSB											
ROA	10.29	11.59	6.83	5.48	6.92	5.08	3.93	3.73	5.01	4.65	3.12
ROE	74.24	71.89	45.16	35.09	45.78	37.29	28.26	26.66	31.39	24.42	17.88
NIM	72.02	73.48	67.21	49.31	68.64	52.16	45.46	45.01	53.95	52.29	25.13
STD to TC	83.29	81.90	84.87	84.38	84.90	86.37	86.09	86.02	84.05	80.95	82.56
LTD to TC	2.86	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TD to TC	86.15	83.90	84.87	84.38	84.90	86.37	86.09	86.02	84.05	80.95	82.56
E to TC	13.85	16.10	15.13	15.62	15.10	13.63	13.91	13.98	15.95	19.05	17.44
Firm Size	6.08	6.13	6.23	6.32	6.39	6.46	6.56	8.62	8.64	8.76	8.80
Sales Growth	79.00	23.77	-19.06	33.39	5.79	15.56	11.26	9.55	17.11	26.98	9.37

Appendix (Cont.)

Trust Bank Limited											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
ROA	11.34	11.79	14.12	13.77	12.06	5.16	7.69	2.35	5.34	3.68	0.04
ROE	95.31	104.12	104.80	108.36	99.72	49.37	71.60	30.19	54.56	38.52	3.96
NIM	185.58	176.26	185.01	182.71	153.36	118.54	115.85	41.25	88.30	52.74	4.51
STD to TC	89.25	88.68	89.38	87.29	87.91	89.55	89.26	92.22	90.21	90.44	92.59
LTD to TC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TD to TC	89.25	88.68	89.38	87.29	87.91	89.55	89.26	92.22	90.21	90.44	92.59
E to TC	10.75	11.32	10.62	12.71	12.09	10.45	10.74	7.78	9.79	9.56	7.41
Firm Size	5.78	5.83	5.96	6.14	6.25	6.30	6.37	6.42	6.44	6.47	7.46
Sales Growth	3.68	20.12	51.76	50.61	35.32	-38.35	77.68	-2.13	10.57	23.03	24.84
ECO Bank											
ROA	12.54	9.50	11.68	11.68	12.23	12.61	11.25	11.54	12.07	5.68	7.21
ROE	18.36	17.61	20.13	20.13	10.61	21.30	18.27	17.60	16.48	7.83	19.08
NIM	75.32	142.73	125.12	117.27	112.01	101.69	114.96	202.64	266.01	102.74	401.82
STD to TC	42.57	46.02	41.98	20.38	16.48	23.80	22.18	19.89	13.03	12.75	17.58
LTD to TC	0.00	0.00	0.00	21.60	15.28	16.98	16.22	14.51	13.74	14.66	19.83
TD to TC	42.57	46.02	41.98	41.98	31.76	40.79	38.41	34.40	26.77	27.41	37.42
E to TC	57.43	53.98	58.02	58.02	68.24	59.21	61.59	65.60	73.23	72.59	62.58
Firm Size	7.50	7.83	8.01	8.01	8.03	8.30	8.41	4.56	4.78	4.87	5.00
Sales Growth	14.16	19.55	116.31	6.69	12.79	113.46	0.65	-18.01	32.86	50.13	-305.68
Years	GDP			Inflation			Exchange Rate (GH¢ to US\$)				
2000	3.70			40.50			0.69				
2001	4.20			21.30			0.73				
2002	4.50			15.20			0.84				
2003	5.20			23.60			0.89				
2004	5.60			11.80			0.91				
2005	5.90			14.80			0.91				
2006	6.40			10.90			0.92				
2007	6.30			12.80			0.97				
2008	6.50			18.00			1.20				
2009	4.10			19.30			1.40				
2010	4.70			10.70			1.40				

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