



GLOBAL JOURNAL OF MANAGEMENT AND BUSINESS RESEARCH  
Volume 12 Issue 13 Version 1.0 Year 2012  
Type: Double Blind Peer Reviewed International Research Journal  
Publisher: Global Journals Inc. (USA)  
Online ISSN: 2249-4588 & Print ISSN: 0975-5853

## Capital Structure and Profitability in Srilankan Banks

By J. Aloy Niresch

*University of Jaffna, Sri Lanka.*

*Abstract* - Capital structure has attracted intense debate and scholarly attention across industries in the corporate finance literature over the past decades. Nonetheless, in the context of the banking industry, the subject has received a limited research attention. Capital structure decision is the vital one since the profitability of an enterprise is directly affected by such decision. Hence, proper care and attention need to be given while determining capital structure decision. The study investigated the impact of capital structure on profitability of ten listed Srilankan banks over the past 8 year period from 2002 to 2009. Based on the findings of the study, there are a few key points that can be used to conclude this study. It is very important that the total debt is the determining factor of profitability in the Banking Industry of Sri Lanka. The outcomes of the study may guide banks, loan-creditors and policy planners to formulate better policy decisions as far as the capital structure is concerned. Further, the study reinforces and refines the body of knowledge relating to capital structure and profitability in Srilankan Banks.

*Keywords* : Capital structure, Profitability, Total debt.

*GJMBR-B Classification* : FOR Code: 150202 JEL Code: M21, G32



CAPITALS TRUCTURE AND PROFITABILITY IN SRI LANKAN BANKS

*Strictly as per the compliance and regulations of:*



# Capital Structure and Profitability in Srilankan Banks

J. Aloy Niresh

**Abstract** - Capital structure has attracted intense debate and scholarly attention across industries in the corporate finance literature over the past decades. Nonetheless, in the context of the banking industry, the subject has received a limited research attention. Capital structure decision is the vital one since the profitability of an enterprise is directly affected by such decision. Hence, proper care and attention need to be given while determining capital structure decision. The study investigated the impact of capital structure on profitability of ten listed Srilankan banks over the past 8 year period from 2002 to 2009. Based on the findings of the study, there are a few key points that can be used to conclude this study. It is very important that the total debt is the determining factor of profitability in the Banking Industry of Sri Lanka. The outcomes of the study may guide banks, loan-creditors and policy planners to formulate better policy decisions as far as the capital structure is concerned. Further, the study reinforces and refines the body of knowledge relating to capital structure and profitability in Srilankan Banks.

**Keywords** : Capital structure, Profitability, Total debt.

## I. INTRODUCTION

This study focuses on capital structure & profitability of listed banks in the Banks, Finance & Insurance sector. Capital structure is one of the most puzzling issues in corporate finance literature (Brounen & Eichholtz, 2001). The concept is generally described as the combination of debt & equity that make the total capital of firms. The proportion of debt to equity is a strategic choice of corporate managers. Capital structure decision is the vital one since the profitability of an enterprise is directly affected by such decision. Hence, proper care and attention need to be given while determining capital structure decision. In the statement of affairs of an enterprise, the overall position of the enterprise regarding all kinds of assets, liabilities are shown. Capital is a vital part of that statement. The term "capital structure" of an enterprise is actually a combination of equity shares, preference shares and long-term debts. A cautious attention has to be paid as far as the optimum capital structure is concerned. With unplanned capital structure, companies may fail to economize the use of their funds. Consequently, it is being increasingly realized that a company should plan its capital structure to maximize the use of funds and to be able to adapt more easily to the changing conditions. (Pandey, 2009)

**Author** : Department of Accounting, Faculty of Management Studies & Commerce, University of Jaffna, Sri Lanka.  
E-mail : aloy157@gmail.com

Basically, banks engage in financial intermediation to ensure efficient mobilization & disbursement of funds to the real sector of the economy. Though other financial institutions exist to engage in the intermediation process banks are considered the most important financial intermediaries. An ultimate goal of a firm is the maximization of wealth or value of that firm (Miller & Modigliani, 1958, 1963; Miller, 1977). The relationship between capital structure and profitability has been the subject of remarkable milestone over the past decade throughout the irrelevance theory. In the seminal article, presented by MM's (1958) irrelevance theory, they argued that capital structure is unrelated to firm's value. In the presence of corporate income tax and the cost of capital in MM's (1963) they argued that the market value of the firm is positively related to the amount of long term debt used in its capital structure.

The relationship between capital structure and profitability is one that received considerable attention in the finance literature. The study regarding the effects of capital structure on profitability will help us to know the potential problems in performance and capital structure. The modern industrial firm must conduct its business in a highly complex and competitive business environment. Therefore, these types of research findings will be benefited in selecting the capital structure to achieve the optimum level of firm's profitability. This study shows the statistical analysis carried out seeking to discover is there any relationship between capital structure and profitability of the listed banks in the Banks, Finance & Insurance sector.

## II. RESEARCH PROBLEM

According to Buser (1981), the capital structure decision of a bank is similar to that of a non financial firm. Although there are considerable inter industry differences in the capital structure of firms due to the unique nature of each industry's business, the intra-firm variations are attributed to the business and financial risk of individual firms.

Most studies found a negative relationship between profitability and leverage. Within this framework, Titman & Wessels (1988) contend that firms with high profit levels, all things being equal, would maintain relatively lower debt levels since they can realize such funds from internal sources. Furthermore, Kester (1986) found a significantly negative relation

between profitability and debt/asset ratios. Rajan & Zingalas (1995) also confirmed a significantly negative correlation between profitability and leverage in their work. Despite the above empirical works, some authors are of a different opinion. These authors observed a positive relationship between profitability and debt levels in their studies. For example, Taub (1975) in a regression analysis of four profitability metrics against debt ratio found significantly positive association between debt and profitability. Abor (2005) also found a significantly positive relationship between total debt and profitability. From the foregoing discussions based on the available empirical literature, it is crystal clear that results from investigations into the relationship between capital structure and profitability are inconclusive and requires more empirical work.

An important question facing companies in need of new finance is whether to raise debt or equity. In spite of the continuing theoretical debate on capital structure, there is relatively little empirical evidence on how companies actually select between financing instruments at a given point of time in order to attain optimum profitability. Hence, the main problem of this research is to study how the capital structure influences on signaling the bank's profitability in Sri Lanka?

### III. OBJECTIVES

The objectives are geared towards the following:

- To find out the impact of capital structure on profitability.
- To find an optimal capital structure that would be associated with the best performance.
- To suggest the banks in the way to increase profitability through adapting a better strategic framework of capital structure.

### IV. REVIEW OF LITERATURE

Capital structure is referred to as the way in which the firm finances itself through debts, equity and securities. It is the composition of debt and equity that is required for a firm to finance its assets. The capital structure of a firm is very important since it is related to the ability of the firm to meet the needs of its stakeholders. The Board of Directors or the financial manager of a company should always endeavor to develop a capital structure that would lie beneficial to the equity shareholders in particular and to the other groups such as employees, customers, creditors and society in general (Pandey, 2009).

Brander & Lewis (1986) and Maksimovic (1988) provided the theoretical framework that links capital structure and market structure. Contrary to the profit maximization objective postulated in industrial organization literature, these theories, like the corporate finance theory, assume that the firm's objective is to maximize the wealth of shareholders and show that

market structure affects capital structure by influencing the competitive behavior and strategies of firms. According to Brander & Lewis (1986) firms in the oligopolistic market will follow the strategy of maximizing their output for improving profitability in favorable economic conditions. In unfavorable economic conditions, they would take a cut in production and reduce their profitability. Shareholders enjoy increased wealth in good periods, but they tend to ignore decline in profitability in bad times as unfavorable consequences are passed on to lenders because of shareholders' limited liability status. Thus the oligopoly firms, in contrast to the firms in the competitive markets, would employ higher levels of debt to produce more when opportunities to earn high profits arise. The implied prediction of the output maximization hypothesis is that capital structure and market structure have positive relationship. Furthermore, Lalith, P.S (1999) investigated the capital structure of Sri Lankan companies and found that the use of long-term debt is relatively low in Sri Lankan companies. The mean leverage in Sri Lanka is estimated as 13.5%, long term debt to equity ratio is 24% while the total debt to equity ratio is 104.1%. This evidence suggested that the use of debt financing in Sri Lanka is significantly low in comparison to G7 markets.

According to the Business Dictionary profitability is the ability of a firm to generate net income on a consistent basis. Ratio is used as a benchmark for evaluating the performance of a firm. Ratios help to summarize large quantities of financial data and to make qualitative judgement about the firm's profitability. One of the most important financial decisions facing companies is the choice between debt and equity capital (Glen & Pinto, 1994). This decision can effectively and efficiently be taken when managers are first of all aware of how capital structure influences firm profitability. This is because; this awareness would enable managers to know how profitable firms make their financing decisions in particular contexts to remain competitive. In the corporate finance literature, it is believed that this decision differs from one economy to another depending on country level characteristics.

Peterson & Rajan (1994) found a significantly positive association between profitability and debt ratios in a study designed to investigate the relationship. Ooi (1999) argues that profitable firms are more attractive to financial institutions as lending prospects. The reason is that, those firms are expected to have higher tax shields and low bankruptcy costs. Furthermore, Abor (2005) has reported a significantly positive relationship between the ratios of short term debt to total assets & profitability but a negative association between the ratio of long term debt to total assets and profitability. Dimitris, M. & Maria, P. (2008) investigated the relationship between capital structure, ownership structure and firm performance across different industries using a sample of French manufacturing firms. They found that a negative

relationship between past profitability and leverage and there will be a positive relation between profitability and leverage.

## V. CONCEPTUALIZATION

Based on the research question, the following conceptual model has been constructed. This model of

capital structure in banking sector introduces new constructs and uniquely combines them in specifying that the profitability is a function of debt to equity and debt to total funds in the capital structure.

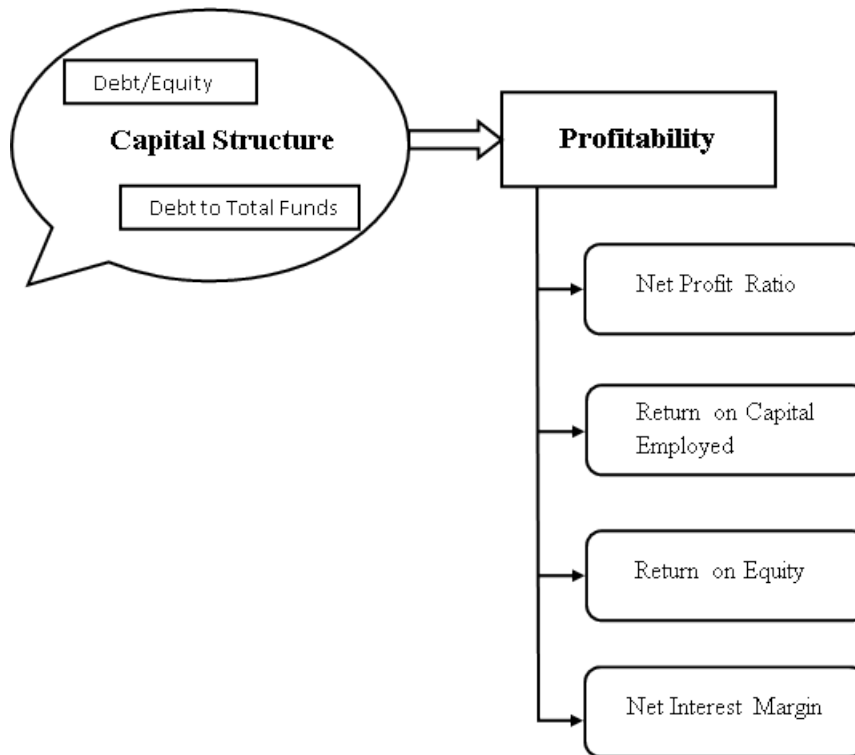


Figure 1 : Conceptualization Model

## VI. HYPOTHESES OF THE STUDY

The following hypotheses were formulated for the study.

- H1- There is a significant impact of debt to equity on Net profit.
- H2- There is a significant impact of debt to equity on Return on Capital Employed.
- H3-Debt to equity has a significant impact on Return on Equity.
- H4- Debt to equity has a significant impact on Net Interest Margin.
- H5- There is a significant impact of debt to total funds on Net profit.
- H6- There is a significant impact of debt to total funds on Return on Capital Employed.
- H7- Debt to total funds has a significant impact on Return on Equity.
- H8- Debt to total funds has a significant impact on Net Interest Margin.

## VII. METHODOLOGY

### a) Data Collection

The present study used secondary data for the analysis. Secondary data is data that have been previously collected for some other project rather than the one at hand but found useful by the researcher. The financial statements which are made up of income statements and balance sheets of the sample banks were the main sources of data for this study. These were obtained from the Hand book of Listed Companies 2007 & the annual reports of respective banks. Further, scholarly articles from academic journals, relevant text books on the subject and the internet search engines were also used. Specifically, the financial statements of the banks in the sample were collected for the period 2002-2009 and a balanced panel of ten banks emerged for the study.



## VIII. RESULTS &amp; ANALYSIS

## a) Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation
Net profit	10	20.96	-3.6	17.36	8.8789	5.90755
Return on Capital Employed	10	16.11	9.32	25.42	14.8218	5.16101
Return on Equity	10	62.04	-42.55	19.48	9.5116	18.51050
Net Interest Margin	10	4.73	3.49	8.22	4.9070	1.73385
Debt/Equity Ratio	10	1353.63	182.25	1535.88	825.1531	801.59839
Debt to Total Funds Ratio	10	17.91	77.48	95.39	88.6591	6.84658
Valid N (listwise)	10					

Table : 8.1.1 Descriptive Statistics

The descriptive statistics show that over the period under study, the profitability ratios measured by net profit, return on capital employed, return on equity and net interest margin averaged 8.9%, 14.8%, 9.5% and 4.9% respectively. The debt/equity ratio stood at 825.2% and debt to total funds averaged 88.7%. This is an indication that approximately 89% of total assets in

the banking sector of Sri Lanka are represented by debt, confirming the fact that banks are highly geared institutions. The maximum and minimum values for debt/equity ratio indicate that the debt/equity composition varies substantially among the listed banks in Sri Lanka.

## b) Regression Analysis

Table 1 : Predictors of Profitability - Model Summary I

Model	Dependent Variable	R	R <sup>2</sup>	Adjusted R Square	Std. Error of the Estimate
1	NP	0.370 <sup>a</sup>	0.137	0.029	5.82134
2	ROCE	0.388 <sup>a</sup>	0.150	0.044	5.04167
3	ROE	0.328 <sup>a</sup>	0.107	-0.004	18.54840
4	NIM	0.661 <sup>a</sup>	0.437	0.367	1.37944

## a. Predictors: (Constant), Debt/Equity Ratio

The R<sup>2</sup> values of 0.137, 0.150, 0.107 and 0.437 which are in the above mentioned table denotes that 13.7%, 15%, 10.7%, and 43.7% of the observed variability in NP, ROCE, ROE, and NIM is explained by the variability in the independent variable of Debt/Equity

ratio. These R<sup>2</sup> values indicate that there may be number of variables which can have impact on profitability other than the Debt/Equity ratio. Hence this area indicated as a scope for future research.

Table 2 : Predictors of Profitability - Model Summary II

Model	Dependent Variable	R	R <sup>2</sup>	Adjusted R Square	Std. Error of the Estimate
1	NP	0.711 <sup>a</sup>	0.505	0.443	4.40927
2	ROCE	0.561 <sup>a</sup>	0.314	0.229	4.53314
3	ROE	0.246 <sup>a</sup>	0.061	-0.057	19.02977
4	NIM	0.879 <sup>a</sup>	0.773	0.744	0.87648

## a. Predictors: (Constant), Debt to Total Funds Ratio

The above mentioned table shows that Debt to Total Funds ratio is having the impact of 50.5% and 77.3% on Net profit and Net Interest Margin respectively. This indicates that debt to total funds composition is the major determining factor of Net profit and Net Interest

Margin of the listed banks in Sri Lanka. Only 6.1% of variations in Return on Equity are explained by the variations in debt to total funds. The remaining 93.9% is influenced by factors other than debt to total funds.

Table 3 : Coefficient for predictors of performance

Models	Unstandardized Coefficients		Standardized Coefficients	t-value	Sig
	B	Std. Error	Beta		
1-NP	Constant	12.474	3.685	3.385	0.010
	D/E	-0.004	0.004	-0.370	0.293
Constant	D/TF	63.232	19.083	3.313	0.011
		-0.613	0.215	-0.711	0.021
2-ROCE	Constant	18.113	3.194	5.670	0.000
	D/E	-0.004	0.003	-0.388	0.268
Constant	D/TF	52.286	19.620	2.665	0.029
		-0.423	0.221	-0.561	0.092
3-ROE	Constant	-0.471	11.741	-0.040	0.969
	D/E	0.012	0.012	0.328	0.355
Constant	D/TF	68.490	82.362	0.832	0.430
		-0.665	0.926	-0.246	0.493
4-NIM	Constant	6.793	0.873	7.780	0.000
	D/E	-0.002	0.001	-0.661	0.037
Constant	D/TF	24.645	3.793	6.497	0.000
		-0.223	0.043	-0.879	0.001

At the above models t values were found to be significant in the model 4 and model 1 for the independent variable of debt to total funds. From the above mentioned table it is crystal clear that negative

association was found between all the independent and dependent variables except the association between Debt Equity ratio and Return on Equity.

### c) Hypotheses Testing

No	Hypotheses	Results	Tools
H1	There is a significant impact of debt to equity on Net profit.	Rejected	Regression
H2	There is a significant impact of debt to equity on Return on Capital Employed.	Rejected	Regression
H3	Debt to equity has a significant impact on Return on Equity.	Rejected	Regression
H4	Debt to equity has a significant impact on Net Interest Margin.	Accepted	Regression
H5	There is a significant impact of debt to total funds on Net profit.	Accepted	Regression
H6	There is a significant impact of debt to total funds on Return on Capital Employed.	Rejected	Regression
H7	Debt to total funds has a significant impact on Return on Equity.	Rejected	Regression
H8	Debt to total funds has a significant impact on Net Interest Margin.	Accepted	Regression

## IX. CONCLUSION & RECOMMENDATION

This study examined the impact of capital structure on profitability in Sri Lankan banks. The study covered 10 listed banks over the period of 2002 to 2009 and the major findings of the study are summarized below:

Total debt was found to be significant in determining net profit and return on capital employed in the banking industry of Sri Lanka. The mean values of debt/equity ratio and debt to total funds were 825.15% and 88.66% respectively. The mean value of debt/equity ratio suggests that debt is 8.25 times higher than equity capital. The debt/equity ratio is normally safe up to 2. It shows the fact that banks in Sri Lanka depends more on debt (Long-term loans) rather than equity capital. The mean value of debt to total funds ratio indicates 89% of the total capital of listed banks in Sri Lanka is made up of debt. This has re-emphasized the fact that banks are highly levered institutions. Long-term debt and total debt were found to be insignificant in determining return on equity in the banking industry of Sri Lanka. This means that deposits do not necessarily translate into enhancing returns on equity in the banking industry of Sri Lanka.

The  $R^2$  values were found to be significant for the impact of debt to total funds on net profit, debt/equity on net interest margin, and debt to total funds on net interest margin. But, no significant impact was found on the remaining dependent variables. Total debt has a major impact on net interest margin and net profit accounted for 77.3% and 50.5% respectively. The least amount of impact was found on return on equity ( $R^2 = 6\%$ ) by total debt. This reveals that remaining 94% is influenced by factors other than total debt. That is other factors are probably a better predictor of return on equity than total debt.

Banks generally play a crucial role in the economic development of every country. One critical decision banks face is the debt-equity choice. Among others, this choice is necessary for the profit determination of firms. What this means is that banks that are able to make their financing decision prudently would have a competitive advantage in the industry and thus making superior profits. Nonetheless, it is essential for us to recognize that this decision can only be wisely taken if banks know how debt policy influences their profitability. Therefore banks should take into view the following matters in order to increase their profitability;

- 1) An appropriate mix of capital structure should be adopted in order to increase the profitability of banks. Findings revealed that total debt contributed 50.5% in determining the net profit of the Banking Industry. That is in the case of higher debt, profitability will tend to decline. The reason behind this may be due to the high interest bearing securities engaged in the total debt. In addition to these an increase in the level of debt also increases the riskiness of banks. Therefore, banks should

concern much on internal sources of financing in order to increase their profitability.

- 2) Top management of every banking firm should make prudent financing decision in order to remain profitable and competitive.
- 3) Banks in Sri Lanka must not be only interested in mobilizing deposits but must also be concerned with utilizing these deposits effectively and efficiently. To achieve this, banks must set competitive lending rates that would not deter customers from accessing loans.

## X. LIMITATIONS AND SCOPE OF FUTURE RESEARCH

The current research is restricted only to the listed banks in the Banks, Finance & Insurance sector in Sri Lanka. Furthermore, this research was mainly conducted based on the secondary data collection. The other data collection methods had not been considered. As a result they may not be 100% accurate. In addition to these data representing the period of 2002 to 2009 were used for the study.

The research has compiled a large database of listed bank's accounting data that demonstrate what can be done even with the limitations of currently available data. There is clearly enormous scope for more research that can inform an understanding of how the capital is structured, how it connects with the profitability and what elements of capital structure make a difference. To develop specific policy recommendations I suggest the following for further research;

- 1) There are currently 241 companies listed in the CSE under 20 sectors. The study covered only the listed Sri Lankan banks from the Banks, Finance & Insurance sector. Therefore, additional investigation is required to examine firms in the different sectors tend to follow different capital structure patterns.
- 2) Another research area that could be extended is to examine capital structure and profitability to the non-listed banks.
- 3) This study has utilized only standard forms of profitability measures. A more precise measure of profit can be obtained with the help of Economic Value Added (EVA) concept.

## REFERENCES RÉFÉRENCES REFERENCIAS

1. Abor, J. (2005), "The Effect of Capital Structure on Profitability: An Empirical Analysis of Listed Firms in Ghana", *The Journal of Risk Finance*, Vol. 6 No.5.
2. Berger, A.N., (1995), "The relationship in Banking- Tests of Market power and Efficient market Hypotheses", *Journal of Money, Credit and Banking*, 65 (3).
3. Kothari, C.R. (2004). *Research Methodology: Methods & Techniques*. pp. 184-87.



4. Modigliani, F. and Miller, M. (1963), "Corporate income taxes and the cost of capital: A Correction". *American Economic Review*, Vol. 53, pp. 443-53.
5. Nimalathasan, B., Brabete, V., "Capital Structure and its Impact on Profitability: A Study of Listed Manufacturing Companies in Sri Lanka.
6. Pandey, I.M. (2009), *Financial Management: Capital Structure Planning and Policy* (pp. 332, 333).
7. Ratio analysis.(2011). In *Scribd*. Retrieved from <http://www.scribd.com/doc/24408725/Profitability - Ratios>.
8. Titman, S. and Wessels, R. (1988), "The Determinants of Capital Structure Choice", *Journal of Finance*, Vol. 43 No. 1, pp. 1-19.
9. Taub, A. J. (1975), "Determinants of the Firm's Capital Structure", *Review of Economics and Statistics*, Vol. 57, pp. 410-416.
10. Titman, S. (1984), "The Effect of Capital Structure on a Firm's Liquidation Decisions", *Journal of Financial Economics*, Vol. 13, pp. 137-51.
11. Taylor, W.B. *Financial Policies of Business Enterprises*, 2nd ed, Appleton – Century, Crofts N.Y.
12. Venhome, G. *Financial Management Policy*, Prentice-Hall of India Private Ltd, New Delhi.