IMPACT OF LEVERAGE ON CORPORATE PROFITABILITY: A STUDY ON LISTED FINANCIAL SECTOR IN SRI LANKA

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Abstract

In finance, Leverage in the extent or degree to which the company total capital is composed of debt financing which increase overall risk and return of the company. Leverage is a technique for magnify gains and losses. This present study empirically investigated the relationship between leverage and profitability of financial sector of Sri Lanka, by using five years data (2008-2012) extracted from the financial statements of the fifteen companies listed on Colombo stock exchange. Hypotheses were formed and results were analyzed through correlation and regression analysis. Based on the results degree of operating leverage (DOL), degree of financial leverage (DFL) and degree combined leverage (DCL) had significantly impact of return on Assets (ROA) and return on equity (ROE).financial industries have to pay more attention on leverage. While leverage magnifies profits when the returns from the asset more than offset the costs of borrowing, losses are magnified when the opposite is true.

Key words: operating leverage, Financial Leverage and profitability

Electronic copy available at: http://ssrn.com/abstract=2849683

1. Introduction

In finance, Leverage in the extent or degree to which the company total capital is composed of debt financing which increase overall risk and return of the company. Capital structure decision is fundamental for any business organization because of the need to maximize return to the various stake holders and also because of the fact that such decision has great impact on the firms' ability to deal with competitive environment. Debt is one of the tools used by many companies to leverage their capital in order to increase profit. One of the best ways in which company increases its profit is through financial leverage. Financial leverage uses debt instruments so that the anticipated level return on the company's equity would increase. The level of financial leverage of a certain company is determined by getting the total value of debt and the equity and the ratio of debt.

The use of high levels of debt in the capital structure leads to an increase or decrease in the return on shareholders' capital (ROE). ROE refers to the monetary gain by shareholders in return for the capital they would have offered to firms. Debt is always desirable if a firm achieves relatively high profits as it results in higher returns to shareholders. Financial planning is an important part in the bank, finance and insurance companies because the financial institutions industry has higher percentage of leverage than other industries. Firms

With a high leverage will be more affected than firms with a lower one. Nevertheless, leverage has been conceived also as a modality by which a company can increase its growth opportunity. But always during the 20th century Enron Bankruptcy had been also an alarm signal for the financial community. Thus leverage had incorporated also the meaning of the risk increasing philosophy. A company can attract external resources, especially when it goes through a boom period and it needs additional financial resources in order to support it, but this makes it riskier.

2.Problem statement

In finance, leverage (sometimes referred to as gearing in the United Kingdom and Australia) is a general term for any technique to multiply gains and losses. Operating leverage is an attempt to estimate the percentage change in operating income for a one-percent change in revenue. Financial leverage tries to estimate the percentage change in earning per share for a one-percent change in operating income.

Problem statement to be analyzed in this study:

Does leverage affect profitability of financial industry companies?

To analyze this problem statement, we have developed objectives of our research

3. Research objective

Objective of the study are as follows:

- To find out the relationship between leverage and corporate profitability
- To understand what extend leverage would impact of selected companies profitability

4. Research questions

Based on the Research objective research question were formulated as follows:

- Has any significant relationship between leverage and companies profitability?
- What extend leverage impact on profitability of selected companies?

5. Literature Review

Empirical investigations of the relationship between profitability and firm size in the past have given varying results. The nature of the relationship between leverage and profitability is an important issue that may shed some light on the factors that maximize profits.

Modigliani Miller (1958) argued that under certain assumptions value of the firm is independent of how its assets are financed. Later in (1963) they revised their famous MM proposition by saying that the existence of tax subsidies on interest payments would cause the value of the firm to rise with the amount of debt financing by the amount of the capitalized value of the tax subsidy. For value of the firm to increase in case of debt financing because of larger cash inflows due to tax subsidy is only possible when EBIT of the firm remains the same no matter how the assets are financed. So, essentially they argued that EBIT of the firm would be independent no matter how the capital is divided among equity and debt. But Jensen and Meckling (1976) argued that Modigliani-Miller theorem is based on the assumption that the probability distribution of the cash flows to the firm is independent of the capital structure.

Magof Kzistami(2011) analyzed Does Leverage Have a Strong impact on profitability - A Case Study on IT Sector. He used 30 IT commercial companies as his sample and analyzed results revealed that there was statistically correlated between the two variables.

Laurent Weill analyzed relationship between leverage and corporate performance. they brought two major improvements to this literature by applying frontier efficiency techniques to obtain performance measures for companies from several countries (France, Germany and Italy). they then proceed to regressions of corporate performance on a various set of variables including leverage. they found mixed evidence depending on the country: while significantly negative in Italy, the relationship between leverage and corporate performance is significantly positive in France and Germany. Their tends to support the influence of some institutional characteristics on this link Analysis

Anandasayanan & Subramaniam(2013) are examined Effect of Capital Structure on profitability of Listed Manufacturing Companies in Sri Lanka. Their sample consists of 12 Manufacturing companies listed in Colombo stock Exchange and their results reveal significantly negative relation between debt and profitability.

Nimalathasan,B and Valeriu Brabete evaluated Capital Structure and Its Impact on Profitability: A Study of Listed Manufacturing Companies in Sri Lanka. In their study an attempt had been made to analyze the capital structure and its impact on profit earning capacity during 2003 to 2007 (05 years) financial year of listed manufacturing companies in Sri Lanka.

The results revealed that debt to equity ratio (D/E) ratio is positively and strongly associated to all profitability ratios [gross profit ratio (GPR); operating profit assets (D/A) ratio is positively and strongly associated to OPR, NPR and ROCE. Similarly capital gearing (CG) ratio is also positively correlated to GPR and NPR. Further, interest coverage (IC) ratio is significantly correlates to ROCE

Anandasayanan (2013) analyzed "The determinant of leverage of the listed companies in Sri Lanka: An empirical Study. The purpose of present study was to investigate the determinants of leverage (or capital structure) decision of Sri Lankan firms based on a panel data set over a period of five years from 2007-2011 comprising of 60 companies. This study examined the impact of five firm specific factors – firm size, firm growth rate, profitability, and asset tangibility, on the leverage decision of listed companies in Sri Lanka. The results showed that financial leverage of Sri Lankan firms is influenced by firm size, firm growth rate and profitability .This study contributed to the literature on the factors that influence financial leverage of the firm.

Velnampy &. Aloy Niresh.J made an attempt to find out the Relationship between Capital Structure and profitability of ten listed Sri Lankan banks over the past 8 year period from 2002 to 2009. Results of their analysis show that there is a negative association between capital structure and profitability except the association between debt to equity and return on equity. Further the results suggest that 89% of total assets in the banking sector of Sri Lanka are represented by debt, confirming the fact that banks are highly geared institutions.

ratio(OPR); and net profit ratio(NPR)] except return on capital employed (ROCE) and return on investment (ROI). Debt to

and NPR. Further capital structure has a great impact on all profitability ratios except ROCE and ROI.

Velnamby &.Nimalathasan initiated to effect of the firm size on profitability of virtually all the branches of Bank of Ceylon (BOC) and Commercial Bank of Ceylon Ltd (CBC) with 10 years accounting period: 1997- 2006.Correlation analysis shown that, there was a positive relationship between Firm size and Profitability in Commercial Bank of Ceylon Ltd, but there was no relationship between firm size and profitability in Bank of Ceylon.

Capital structure is related with corporate governance practices liquidity. Profitability is
Related with corporate governance practices and working capital management (Kajananthan, 2012; Velnampy, 2013; Achchuthan and Kajananthan, 2013; Velnampy and kajananthan, 2013)

T.Murugesu (2013) analyzed effect of debt on corporate profitability in hotel companies in Sri Lanka and noted that there no significant impact of debt on company's performance.

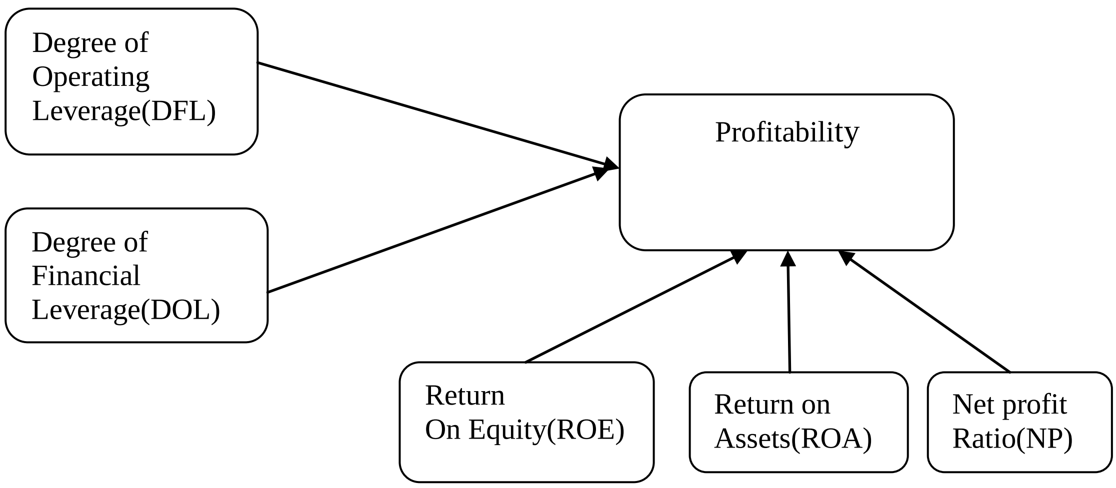
Du Pont chart analysis can describe the relationship between profitability and the use of debt as reflected by return on equity ratio of a company. The proper use of debt can raise the return on equity ratio. This means that the company's management can make use of the debt to increase the profit. It also can indicate the ability of company's management to maximize its operation on assets in making profit (Brigham and Ehrhardt, 2005).

Hall, (2008) defined information system as, It is the set of formal procedures by which data are collected, processed in to information, and distributed to users. Rashid, Hossain, and Patrick (2001) said that in 1950's; development of computer technology had made it possible for organizations to process more information and increased capacity to store information. Computers were capable of analyzing massive amount of data which increased the use of information and also producing accurate and timely reports

Based on above literature, we can say that several studies have been done on this area, but only few studies have been conducted, in Sri Lanka. Hence this study was an attempt to examine the effect of leverage on company's performance of the listed financial sector companies in Sri Lanka.

6.Conceptualization frame work

According to the literature review, following conceptual model is formulated .



Source: Developed by Researchers

6. Research Hypotheses

Based on conceptualization frame work research hypotheses were formulated as follows:

H1: there is significant association between DFL and ROE

H2: there is significant association between DOL and ROE

H3: there is significant association between DFL and ROA

H4: there is significant association between DOL and ROA

H5: there is significant association between DFL and NP

H6: there is significant association between DOL and NP

Variable definition

Degree of Financial leverage

A ratio that measures the sensitivity of a company's earnings per share (EPS) to fluctuations in its operating income, as a result of changes in its capital structure. Degree of Financial Leverage (DFL) measures the percentage change in EPS for a unit change in earnings before interest and taxes (EBIT), and can be mathematically represented as follows:

$$\frac{\%EPS}{\%EBIT}$$

Degree of operating leverage

A type of leverage ratio summarizing the effect a particular amount of operating leverage has on a company's earnings before interest and taxes (EBIT). Operating leverage involves using a large proportion of fixed costs to variable costs in the operations of the firm. The higher the degree of operating leverage, the more volatile the EBIT figure will be relative to a given change in sales, all other things remaining the same. The formula is as follows:

$$\frac{\%EBIT}{\%\ sales}$$

Return on Equity

The amount of net income returned as a percentage of shareholders equity. Return on equity measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested.
Calculated as:

$$\frac{\text{Net Income}}{\text{Shareholder's Equity}}$$

Return on Assets

An indicator of how profitable a company is relative to its total assets. ROA gives an idea as to how efficient management is at using its assets to generate earnings.
calculated as:

$$\frac{\text{Net Income}}{\text{Total Assets}}$$

Net profit

Net profit, also referred to as the bottom line, net income, or net earnings is a measure of the profitability of a venture after accounting for all costs.
Calculated as

$$\frac{\text{Net Income}}{\text{Sales}}$$

8. Methodology

8.1Data collection

This research focused on secondary data collection. Fifteen companies were selected on random sampling method from Banks, finance and insurance industry over the period of 2008-2012. Those companies are listed below:

Table 01 samples

1.	Hatton National Bank PLC
2.	Lanka Orix Leasing Company PLC
3.	LB finance Plc

4.	Merchant Bank of Sri Lanka PLC
5.	Soft logic Capital PLC
6.	First Capital Holdings PLC
7.	Central Finance Company PLC
8.	Ceylinco Insurance PLC
9.	National Development Bank PLC
10	Nations Trust Bank PLC
11	People's Leasing & Finance PLC
12	Sampath Bank PLC
13	Senkadagala Finance PLC
14	Union bank of Colombo PLC
15	Commercial Bank of Ceylon PLC

8.2 Data analysis and discussion

8.2.1 Correlation analysis: Correlation analysis was carried out find out the relationship between the leverage and the profitability of listed financial sector in Sri Lanka. Table 01 shows the correlation summary**.**

Table 02 correlations

Correlations						
		DFL	DOL	ROE	ROA	NP
DFL	Pearson Correlation	1				
	Sig. (2-tailed)		.		.	
DOL	Pearson Correlation	.153	1			
	Sig. (2-tailed)	.587				
ROE	Pearson Correlation	.992**	.080	1		
	Sig. (2-tailed)	.000	.778			
ROA	Pearson Correlation	-.218	-.701**	-.107	1	
	Sig. (2-tailed)	.436	.004	.704		.
NP	Pearson Correlation	.168	.739**	.058	-.922**	1
	Sig. (2-tailed)	.549	.002	.836	.000	
**. Correlation is significant at the 0.01 level (2-tailed).						

Above table shows the Pearson's correlation coefficient and it indicates how various kind of relationship between leverage and corporate profitability. As per table, DFL has shown strongest positive relationship between ROE (r=.992) at 0.01 significant level. But DOL has no significant relationship between ROE. DOL had strong negative relationship between ROA (r=-0.701) at the same time DFL was not significantly correlated with ROA. net profit had strong positive correlation between DOL but there was no significant relationship between NP and DFL

8.2.2.2 Regression analysis

To find out the impact of leverage on ROE of listed financial sector, multiple regressions was carried out.

Table 03 Regression analysis

a. Dependent Variable: ROE

Above table 03 indicates that impact of leverage on ROE. Analyzed results revealed that DFL had strong significant association between ROE. The positive value of coefficient of beta (4.929E6) was empirically significant ($p<0.01$). But there was no significant relationship between DOL and ROE. 92% of variation of ROE is explained by leverage.

We find that our estimated line can be written as:

$ROE = .367 + 4.985E6_{DFL} + (-.840_{DOL})$

Analyzed results revealed that DFL had strong significant association between ROE. The positive value of coefficient of beta (4.929E6) was empirically significant ($p<0.01$).In order to test hypothesis one (H1), it was stated that there is a significant association between DFL and ROE. Analyzed results proved this hypothesis. Therefore H1 is accepted.

Based on above table 03 shows there was no significant relationship between DOL and ROE. But hypothesis two (H2) stated that there is a significant association between DOL and ROE. Therefore hypothesis two was (H2) rejected.

Table 04 Regression analysis

Model	Coefficients	t	sig	R^2
Constant	.066	3.354	.006	
DFL	-5345.519	-.551	.592	
DOL	-.074	-3.325	.006	
R^2				.504

a. Dependent Variable: ROA

Above table 04 explores effect of leverage on ROA. Based on the analyzed results revealed that there was strong negative relationship between DOL and ROA ($p<0.05$). But there was no significant relationship between DFL and ROA. only 50.4% variation of ROA was explained by

Model	Coefficients	t	sig	R^2
Constant	.367	1.269	.228	
DFL	4.985E6	34.821	.000	
DOL	-.840	-2.549	.026	
R^2				.920

Leverage

In order to test hypothesis three (H3), it stated that there is significant association between DFL and ROA According to the results explored that there was no significant relationship between ROA and DFL. Therefore H3 rejected

In order to test hypothesis four (H4), it was stated that there is significant association between DFL and ROA. Analyzed results agreed this statement because the negative value of coefficient of beta (-0.074) was empirically significant ($p<0.05$).therefore H3 was accepted.

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Table 05 Regression analysis

Model	Coefficients	t	sig	R^2
Constant	-.108	-1.003	.336	
DFL	15466.009	.289	.777	
DOL	.459	3.724	.003	
R^2				.549

a. Dependent Variable: NP

Table 05 exhibits impact of leverage on Net profit. it was found that there is positive significant relationship between DOL and NP. 54.9% of variation is explained by DOL.

In order to test hypothesis Five (H5), it stated that there is significant association between DFL and NP According to the results explored that there was no significant relationship between NP and DFL. Therefore H5 rejected

In order to test hypothesis six (H6), it was stated that there is significant association between DOL and ROA. Analyzed results agreed this statement because the positive value of coefficient of beta (0.459) was empirically significant ($p<0.05$).therefore H6 was accepted

Conclusion

This paper examined the impact of leverage on corporate profitability using fifteen listed banks, finance and insurance companies in Sri Lanka over 2008-2012. This paper searched to fill the gap in the literature as a result of few studies that had been conducted in this area using Sri Lankan data.

Analyzed results, it was documented that Degree of Operating Leverage had no significant relationship with return on equity. But it was not enough to prove any proportion whereas degree of financial leverage had significant relationship with Return on Equity. But degree of Operating leverage significantly impact on Return on Assets and Net profit. Therefore leverage impact of corporate profitability of banks, finance and insurances companies.

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