

THE INFLUENCE OF FINANCIAL LEVERAGE ON CORPORATE PROFITABILITY: SPECIAL REFERENCE TO PLANTATION SECTOR IN COLOMBO STOCK EXCHANGE

Mohamed Cassim Abdul Nazar
Faculty of Management and Commerce, South Eastern University of Sri Lanka
mcanazar@seu.ac.lk

Abstract

The purpose of this study is to empirically examine the influence of financial leverage on corporate performance of eighteen plantation farming companies listed on the Colombo Stock Exchange (CSE) of Sri Lanka. This study used as the sample data for the period of six years from 2013 to 2018. This study used ROA and ROE as accounting performance measures and EPS as market performance measure and all three are the dependent variables. Descriptive statistics, correlation and multiple regression analysis are used in this study in determining the relationship between the leverage and firm's profitability. TDTA and TDTE are used as independent variables. And firm size is used as a control variable. The results indicate that there is a significant negative association between Total debt to total assets (TDTA) and profitability. Similarly Total debt to total equity (TDTE) was significantly negatively associated with profitability. Firm size has significant positive relationship with profitability.

Keywords: Financial leverage, Profitability, Accounting measures, Market measures, Plantation sector.

1. Introduction

Financial leverage is a very important external financing mode. Financial leverage is one of the best ways for businesses to achieve their goals. With the help of the financial leverage, a company is not only able to achieve its goals but also is able to maximize the value of its shareholders' wealth. Finance is very important for any business, especially for a business which is new and on-going. Moreover, financial or non-financial institutes need funds to operate its daily activities. In the book of accounting and finance, the leverage can be defined as the amount of debts or credits that are used to purchase of assets, enhance the operational activities or acquire a new firm. Generally, the cost of borrowed money (leverage) is less than the amount of equity. By considering the financial leverage like debts to equity ratio, debts to total assets ratio we can easily identify the financial position of the firm or the amount of leverage that is used in a business firm. Financial leverage has a great impact on every business in terms of increasing the production level and increasing the shareholder value or acquiring a new asset.

The plantation farming sector in Sri Lanka understandably comprises a large and vital sector of the economy and encompasses the major plantation crops tea, rubber and coconut amongst others. Although its contribution to the

country's gross domestic product has declined considerably over the last three decades, agriculture is still one of the most important sectors of the Sri Lankan economy and is the most crucial source of employment for the majority of the Sri Lankan workforce. Although the share of the agriculture sector in the GDP has declined to 12 per cent it is significant because 70 per cent of the population still live in rural areas mainly engaged in agriculture as a livelihood. In developing countries, the capital structure of plantation firms faces high operating and financial risk due to huge investment and environmental factors. The difficulty facing plantation industry when structuring their finance is to determine its impact on profitability as profitability of the business is crucial to the value of the firm and consequently its survival. An increase in leverage results in increased return and risk, while decrease in leverage result in decreased return and risk. There are two types of leverage, namely operating leverage and financial leverage, financial leverage is the use of the fixed charges of resources, that is preference and debt capital along with the owners' equity in the capital structure while operating leverage is degree in which the firms use much of fixed expenses, the higher the fixed expense the higher the operating leverage.

In the modern competitive environment, the decisions relating to the corporate finance are gaining increasingly more important in the competitive formula of both firms and countries. Globalized competition has stressed the strategic importance of financial decisions. Therefore, the topic of the relationship between the financial leverage and firm's profitability has been an important one among present researchers. Although there are many empirical studies have been done to investigate the relationship between a firm's profitability and financial leverage, no consensus has been reached yet (Saeed et al 2013; Taani 2013; Priya & Nirajini 2013). Ebrati et al. (2013) stated that the theory of capital structure and its relationship with a firm's value and performance has been a puzzling issue in corporate finance and accounting literature after the seminal work of Modigliani and Miller. As the first milestone of the theories, Modigliani and Miller (1958) theoretically stated that there is no relationship between capital structures of a firm and its value under several assumptions such as perfect capital market, free access to information, no transaction cost, bankruptcy cost and no taxation exist and external and internal funds can be perfectly substituted. This theory of irrelevance is not in practice because those assumptions are not in a real world in the same manner. Further, in 1963 he argued that a firm can get more tax benefits by using more debts in the capital structure and therefore the value of a firm is affected by financial leverage.

The aim of the present study is to investigate the effect of financial leverage on firm's profitability of plantation farming sector in CSE in Sri Lanka. Therefore, the prime aim of this study is to examine the relationship between financial choices and firm performance such as earning per share (EPS), return on assets (ROA) and return on equity (ROE) in the plantation farming sector in Sri Lanka.

2. Research Problem

Numerous studies carried out to investigate the relationship between the financial leverage and firm's profitability. Many studies that have been carried out in this regard reveal a positive relationship between financial leverage and firm's profitability (Saeed et al 2013; Taani (2013); Priya & Nirajini (2013). In contrast some other researchers found a negative relationship between the above both variables (Ebrati et al. 2013; Salim & Yadav, 2012). However, a firm's performance is greatly influenced by financial leverage as established by many studies.

The researches done on the effect of the financial leverage on a firm's profitability are fewer in number; it is lesser especially in the plantation sector in Sri Lanka. When examining past studies regarding financial leverage and firm's profitability, most of the researches have undertaken their researches based on the data collected from many Asian, African and European countries. However, most of the studies in Kenya were carried out on firms in different sectors most notably banking, financial and manufacturing industries other than agricultural sector although agricultural sector is one of the pillars of Country's economy. But those identified factors may be irrelevant and mismatching to the plantation farming industry in Sri Lanka due to the nature and the size of the industry and the economic conditions. Therefore, this paper forms part of a larger effort to develop a case study of the effect of financial leverage on firm's profitability in plantation farming sector.

3. Literature Review:

This section presents a literature review on the relationship between financial leverage and firm performance. The followings detail discussion on the empirical evidence of the impact of influence of financial leverage on profitability of a few selected researches in the literature.

Ebrati et al. (2013) investigated the impact of capital structure on firm performance using multiple regression analysis to estimate the relationship between the leverage level and firm's performance using a sample of non-financial Iranian listed firms from 2006 to 2011. Their results indicated that firm performance which is measured by EPS and ROA is negatively related to capital structure. These findings are consistent with Salim and Yadav (2012) who found that capital structure has significant negative association with firm performance which is measured by ROE and ROA by using a sample of 237 Malaysian listed companies on the Bursa Malaysia Stock Exchange during 1995 to 2011.

Raza (2013) studied this relation by using panel data analysis of listed non-financial firms in Karachi stock exchange for the period of 2004-2009. The results indicated that there was negative relationship between performance and leverage and long-term debt is more expensive due to certain direct and indirect costs and as such high level of debt indicates low profitability. And he also argued that the profitability is consistent with pecking order theory and as the capital structure decision is a complex and multi-dimensional problem, the existing theories of capital structure contribute to some extent in decision making process.

In contrast with the above statements, Saeed, et al. (2013) indicated that there exists a positive relationship between capital structure and profitability of Pakistan Banks and this study has been done by utilizing data of banks listed in Karachi stock exchange over the period of five years from 2007 to 2011 and multiple regression models are applied to the analysing process.

Pratheepkanth (2011) stated that there is a negative relationship between gross profit and capital structure, net profit and capital structure and ROI and ROA also has negative relation with capital structure. Finally, he stated that business companies mostly depend on the debt capital and therefore they have to pay more interest expenses. The analysis has been made on the capital structure and its effect on financial performance level during 2005-2009 of business companies in Sri Lanka.

Soumadi and Hayajneh (2012) argued that capital structure related negatively and statistically with firm performance on the study using sample which has used ordinary least squares as regression technique including 76 Jordan firms for the period of 2001 to 2006. The study also finds that there are no significant differences between high levered firms and low levered firms as well as between high growth firms and low growth firms.

Taani (2013) examined the impact of capital structure on performance of Jordan banks by using the annual financial statements of twelve commercial banks listed on Amman stock exchange during the period of 2007 to 2011. He proposed that bank performance which is measured by net profit, return on capital utilized and net interest margin is significantly and positively associated with total debt while total debt is significant in determining return on equity in the banking industry of Jordan. Multiple regression models were applied to propose the above result. The results similar to the above have been presented by Fosu (2013) who investigated the relationship between capital structure and firm performance paying particular attention to the degree of industry competition using panel data consisting with 257 South African firms over the period from 1998 to 2009 and his results suggested that financial leverage has a positive and significant effect on firm's performance.

Priya and Nirajini (2013) examined the impact of capital structure on financial performance of listed trading companies in Sri Lanka during the period from 2006 to 2010 by using correlation and multiple regression analysis. The results revealed that there is a positive relationship between capital structure and financial performance and also capital structure significantly has an impact on financial performance of the firm.

4. Research Hypotheses

Based on objective of the study, the researcher developed the following statement of hypothesis.

H1: There is a significant relationship between financial leverage and Return on Assets

H2: There is a significant relationship between financial leverage and Return on Equity

H3: There is a significant relationship between financial leverage and Earning per Share

5. Methodology

5.1 Sample and data collection

The Colombo stock exchange (CSE) has twenty sectors representing 297 companies as in 2018. There are twenty plantation companies listed in the CSE and from the net population of the plantation sector companies only eighteen firms were selected through convenience sampling for as the sample and six years' annual report data chosen from 2013 to 2018 as the sample size. This study used secondary data in the financial statements of the sample firms from the CSE website and individual financial statements of company profiles. Specifically, the study interested in the net profit after tax, total assets, current liabilities, equity, preference dividends, ordinary shares, interest expenses, total debts, and the total assets of the selected sample. The data collected for the period of 2013-2018.

5.2 Model Specification

According to dependent and independent variables following three regression models formulated as follows in this study,

$$EPS = \beta_0 + \beta_1 TDTAi + \beta_2 TDTEi + \beta_3 FS + e_i$$

$$ROA = \beta_0 + \beta_1 TDTAi + \beta_2 TDTEi + \beta_3 FS + e_i$$

$$ROE = \beta_0 + \beta_1 TDTAi + \beta_2 TDTEi + \beta_3 FS + e_i$$

Where,

ROA	-	Return on assets
ROE	-	Return on equity
EPS	-	Earning per share
TDTA	-	Total debt to total assets ratio
TDTE	-	Total debt to total equity ratio
FS	-	Firm size

6. Results and Discussion

6.1 Descriptive statistics

Table 1: Descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Earnings per share (EPS)	108	-52.78	23.19	0.1482	9.956
Return on Assets (ROA)	108	0.000	0.206	0.046	0.043
Return on Equity (ROE)	108	-1.944	1.056	0.016	0.280
Total debt to Total assets (TDTA)	108	0.24	1.63	0.607	0.225
Total debt to Total equity (TDTE)	108	0.00	4.79	1.555	1.1097
Firm Size (FS)	108	0.018	0.234	0.0547	0.0405

As it is presented in the above Table 1; the descriptive statistics shows that over the period under study, the financial leverage measured by Total debt to Total assets (TDTA) and Total debt to Total equity (TDTE). Financial leverage measured by Earnings per share (EPS), Return on Assets (ROA) and Return on Equity (ROE). Descriptive statistics results exhibited that TDTA and TDTE ratios records 0.607 and 1.555 as the mean values respectively. TDTE has the highest mean value among the variables. Moreover, the mean of the earnings per share is about 0.1482. It point out that average percentage of distribution is about 14.82% during six years period. Return on assets represents 0.046 while return on equity indicates the lowest mean value of 0.016. As a Control variable, firm size was recorded the mean value of 0.0547.

6.2 Correlation matrix Analysis

The bivariate correlations are used to examine the explanatory variables and to recognize independent variables with higher correlation coefficient enabling to identify the variable with multicollinearity problem. Table 2 provides the matrix of Pearson correlation measuring the degree of association between the variables under the study. According to the Table 2, correlation coefficients are not greater than 0.8. A value of greater than 0.8 could be considered as having multicollinearity problem (Gujarati, 2003).

Table.2: Correlations analysis

	1	2	3	4	5
1. Earnings per share (EPS)					
2. Return on Assets (ROA)	.638**				
3. Return on Equity (ROE)	.308**	.400**			
4. Total debt to Total assets (TDTA)	-.605**	-.428**	-.105		
5. Total debt to Total equity (TDTE)	-.211*	-.388**	-.310**	.330**	
6. Firm Size (FS)	.017	.030	.014	-.263**	-.160

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

The above correlation matrix Table 2 shows that, Total debt to Total assets (TDTA) and Total debt to total equity (TDTE) has negative correlation with Earnings per share (EPS), Return on Assets (ROA) and Return on Equity (ROE). In contrast, control variable of Firm Size (FS) has positively correlated with profitability (EPS, ROA, and ROE).

6.3 Regression analysis

6.3.1 Effect of Financial Leverage on earning per share (EPS)

The following result summarizes the effect of financial leverage on earning per share (EPS) of selected plantation companies in CSE.

Table 3: Effect of financial leverage on EPS

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	19.707	2.792		7.059	.000
TDTA	-28.232	3.699	-.637	7.633	.000
TDTE	-.229	.731	-.026	-.313	.005
FS	37.919	19.585	-.154	1.936	.006

According to the Table 3, while considering the first variable of financial leverage, the impact of Total debt to total assets on EPS was significant and negative. Similarly, Total debt to total equity on EPS was significant and negative. Hence, financial leverage significantly affects earning per share. Therefore, Hypothesis 1 accepted. In contrast, control variable of firm size was positively significantly associated with EPS. The results are consistent with the findings of Ebrati et al. (2013); Salim and Yadav (2012).

6.3.2 Effect of Financial Leverage on Return on Assets (ROA)

The following result summarizes the effect of financial leverage on return on assets (ROA) of selected plantation companies in CSE.

Table 4: Effect of financial leverage on ROA

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	.111	.013		8.465	.000
TDTA	-.069	.017	-.363	-3.966	.000
TDTE	-.011	.003	-.286	-3.200	.002
FS	.117	.092	-.111	-1.269	.007

According to the Table 4, Total debt to total assets significantly negatively associated with ROA, Likewise Total debt to total equity also significantly negatively associated with ROA. Hence, financial leverage significantly influence on Return on assets. Therefore, Hypothesis 2 accepted. Control variable of firm size was significantly positively associated with ROA. These results were reliable with Pratheepkanth (2011) and Samarakoon et al. (2016).

6.3.3 Effect of Financial Leverage on Return on Equity (ROE)

The following result summarizes the effect of financial leverage on return on equity (ROE) of selected plantation companies in CSE.

Table 5: Effect of financial leverage on ROE

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	S. Error	Beta		
Constant	.163	.095		1.705	.091
TDTA	-.015	.126	-.012	-.121	.004
TDTE	-.079	.025	-.312	-3.151	.002
FS	.271	.670	-.039	-.405	.016

Table 5 showed that the impact of Total debt to total assets on ROE was significant and negative. At the same time, the impact of Total debt to total equity on ROE was significant and negative. Hence, financial leverage significantly influences on ROE. Therefore, Hypothesis 3 also accepted. Firm size was significantly positively associated with ROE. These findings are consistent with the findings of Saeed et al. (2013) and Samarakoon et al. (2016).

7. Conclusion and Recommendation

The result shows that financial leverage significantly affects profitability of plantation firms listed in CSE measured by both Total debt to total assets (TDTA) and Total debt to total equity (TDTE). Financial leverage is an important

feature of any organization relates with financial management decisions. Actually the ability to continuously operate in longer period of an organization may depend on how that company deals with debtors. The most plantation sector companies have poor performance over the period of 2013 to 2018 based on the ROE as well as most of their assets are financed by using debts rather than the equity. Therefore, the researcher identified those are as high levered firms. Further this study found that there is a negative effect between both TDTA and TDTE on ROA, ROE and EPS.

The study considered only plantation sector listed in CSE and also recommends that future researches might consider investigating all the sectors and increase the period of study. Furthermore, future study needs to be carried out using different analytical tools to enable it find out whether the findings of this study will still hold or shed more light for the firms on the relationship that exist between leverage and profitability.

References:

- Ebrati, M. R., Emadi, F., Balasang, R. S., & Safari, G. (2013). The Impact Of Capital Structure On Firm Performance: Evidence From Tehran Stock Exchange. *Australian Journal of Basic and Applied Sciences*, 7(4), 1-8.
- Fosu, S. (2013). Capital Structure, Product Market Competition And Firm Performance: Evidence From South Africa, *The Quarterly Review of Economics and Finance*, 53(2), 140-151.
- Gujarati, D.N. (2003). *Basic Econometrics*, McGraw-Hill
- Modigliani, F., & Miller, M. (1958). The Cost Of Capital, Corporation Finance And The Theory Of Investment. *The American Economic Review*, 97-261.
- Pratheepkanth, P. (2011). Capital Structure And Financial Performance: Evidence From Business Companies In Colombo Stock Exchange, Sri-Lanka; *Researchers World Journal of Arts Science and Commerce*, II (2), 171-180.
- Priya, K. B., & Nirajini, A. (2013). Impact of Capital Structure on Financial Performance of the Listed Trading companies in Sri Lanka. *International Journal of Scientific and Research Publications*, 3(5), 1-9.
- Raza, M.W. (2013). Effect Of Financial Leverage On Firm Performance: Empirical Evidence From Karachi Stock Exchange, *MPRA Working paper*, Online at <https://mpra.ub.uni-muenchen.de/50383>
- Saeed, M. M., Gull, A. A., & Rasheed, Y. M. (2013). Impact Of Capital Structure On Banking Performance, *Interdisciplinary Journal of Contemporary Research in Business*, 4(10), 393-403.
- Salim, M., & Yadav, R. (2012). Capital Structure And Firm Performance: Evidence From Malaysian Listed Companies, *International Congress on Interdisciplinary Business and Social Science*, 65, 156-166.
- Samarakoon, S.M.RK., Kumara, E.S, & Gunartne, U.G.V.D.D., (2016). Effect Of Leverage On Profitability And Market Performance In The Manufacturing Sector Of Sri Lanka: A Panel Regression Analysis, *Journal of Accountancy and Finance*, 1(1), 76-87.
- Soumadi, M.M., & Hayajneh, O.S., (2012). Capital Structure And Corporate Performance: Empirical Study On The Public Jordanian Shareholdings Firms Listed In The Amman Stock Market, *Research Journal of Finance and Accounting*, 6, 1-9.
- Taani, K. (2013). Capital Structure Effects on Banking Performance, *International Journal of Economics, Finance and Management Sciences*, 1(5), 227-233.