

Impact of Capital Structure on Working Capital Management: Evidence from Capital Goods Sector in Colombo Stock Exchange

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Abstract:

This study is intended to examine the impact of Capital Structure on Working Capital Management, an application on Capital goods companies listed in Colombo Stock Exchange. Data for the study is collected from 145 annual reports which are related to 29 Capital goods companies listed in Colombo Stock Exchange for five years from 2014 to 2018. Capital Structure is used as independent variable for the study while Working Capital Requirement (WCR) is used as the dependent variable. Controlling variables of this study are Firm Size (FS) and Return on Equity (ROE). Regression analysis is used for hypothesis testing. The result of this study shows that Debt to Equity ratio has a negative and significant impact on Working Capital Requirement from regression analysis. Finally, researchers conclude that there is a significant negative impact of Capital Structure on Working Capital Management of Capital goods companies in Sri Lanka.

Key words: Working Capital Requirement, Firm Size, Return on Equity, Debt to Equity, Working Capital Management

1. Introduction

Working capital management is one of the most vital segments in firm's financing decisions as an important stimulus towards firm's performance. The importance of Working capital management towards firm's achievement was considered as a traditional concept that highlights in all standard corporate finance textbooks (Aktas *et al*, 2015). Above all, efficient management of working capital is a fundamental part of the overall corporate strategy (Padachi, 2006). Working capital management is considered to be very important element to analyze the organizations' performance while conducting day to day operations (Azam & Haider, 2011). It consists of current assets and current liability. The term current assets refer to those assets which is in ordinary course of business can be, or will be converted in to cash within one year. Examples are cash, account receivable, short term investment and marketable securities. On the other hand, current liabilities are those liabilities which are intended, at their inception to be paid in the ordinary course of business in a year. The basic current liabilities are bill payable, account payables, bank overdraft, outstanding expenses and short-term loans.

Working capital management efficiency includes optimum balance of working capital components and using the cash efficiently for day-to-day operation. According to Ganesan, (2007) optimization of working capital balance means minimizing the working capital requirement and realizing maximum possible revenues. Further, efficient working capital management efficiency increases firm's free cash flow, which in turn increase the firm's growth opportunities and return to shareholders. Thus firms try to keep on optimal level of Working capital that maximizes their value (Afza & Nazir 2008). Thus, the importance of managing working capital efficiently is irrefutable in certifying each components of working capital are at the best level of efficiency to successfully operate and is highly desirable for firm's growth and sustainability because, its effects on profitability and risk (Tsagem *et al*. 2014). In

addition, efficient working capital management will allow firms to redeploy underutilized of firm's performance (Aktas *et al.* 2015).

The firms have to decide to raise capital, whether it is by taking on debt or by using existing equity, doesn't affect the value of the company. The capital structure of the firm includes the equity capital, debt capital and revenue reserves and capital reserves. The revenue reserves include the retained earnings which contains the earnings before interest and tax for the year. And also, capital structure is the mix of securities e.g., it can issue large amount of debt or little debt, arrange lease, warrants, trade bonds etc.

The capital structure decision is the vital one since; the profitability of an enterprise is directly affected by such decision. Also, capital structure decision is one of the most sensitive issues for any organization because it directly relates to competitive environment. However, its main focus is to find comprehensive combination of that maximize the overall market position.

Capital structure is actually the combination of debt and equity. The proportion of debt funding is measured by leverage or gearing. It also involves the tradeoff between risk and return. In corporate finance, the capital structure has very important role in small as well as large companies. When a company uses more debt, it raises the risk of the company. Even though higher percentage of debt move towards the higher expected rate of return. Therefore, proper attention needs to be given while determining capital structure decision of the companies. In the statement of affairs of an enterprise, the overall position of the enterprise regarding all kinds of assets, liabilities are shown.

The main aim of this research is that to find out the impact of capital structure on working capital management of all capital goods companies listed on Colombo Stock Exchange (CSE) during the period of 2014-2018.

2. Brief Review of Literature and Construction of Hypothesis

Bundala (2014) examined how the capital structure influences the working capital and the growth opportunity of the listed companies in Tanzania. Sales growth rate, net-income growth rate, inventory-sales ratio, dividend growth rate, cash-sales ratio, debtor-sales ratio ,creditor-sales ratio, structural health ratio, current assets-sales ratio and liquidity (current) ratio are concluded as variables of working capital and growth opportunity also financial leverage ratio is considered as the proxy of Capital structure. He concluded that the listed companies of Tanzania are unleveraged and growing fast and are illiquidity. It is found that there is no significant relation of capital structure, working capital and growth opportunity of Tanzanian listed companies.

The study done by Anderson (2002) on the capital structure, company liquidity and the growth, by using panel data sets of Belgian and UK companies, tested the relationships among the company's financial structure, its choice of liquidity asset holdings and growth. Empirically found that the financial leverage is positively related with the liquidity of a company. The impact of company to hold its asset in liquidity form, does affect the growth of the company and the capital structure in a company (Anderson, 2002). Ali *et al.* (2011) studied in banking sector in Pakistan, reports the negative relations of leverage and liquidity.

Eljelly (2004) point out that efficient working capital management involves planning and controlling current assets and current liabilities in a manner that eliminates the risk of inability to meet

due short-term obligations on the one hand and avoid excessive investment in these assets on the other hand. In the short-term objective of the companies, the working capital management is viewed as one of the key mechanisms. And also working capital management is considered to be a vital issue in financial management decision and it has its effect on liquidity as well as on profitability of the firm (Kajananthan, & Achchuthan, 2013). If firms maintain high level of liquidity, the liquidity of the firm's increases but the profitability of firm will go down. So, firms have to maintain a balance between liquidity and profitability. Pandey (2005) argued that following danger will occur because maintaining inadequate working capital level. Firm not having sufficient working capital will cause to avoid acquire profitable project. Secondly it becomes a difficult to implement firm operating plan and achieved firm's profit target. Third factor is firm's fixed assets will be underutilized because not having a working capital for day to day business operation. Indirectly it will also affect firm's profitability. Fourthly, the lacks of working capital funds render the firm unable to avoid attractive credit opportunity. Next factor is firm will lose its reputation when it is not in a position to honor its short-term obligation. As the result of that in future firm will face tight credit facilities.

Pandey (2005) pointed out if the company maintains excessive working capital is not generating any profit. According to his finding following draw backs will be occurred, if firms not interested to maintain proper working capital position. The dangers of excess working capital are, first firm have unnecessary accumulated of inventories will occur inventory mishandling, theft, wastage and losses. Second factor is indicating have a more stock mean defective credit policy and slack collection period. In this situation bad debts will occur and that will affect the profitability of firm. And thirdly, excessive stock may course to create speculative profit in the profit and loss account. This may influence to pay the dividend to the shareholder but in the future if that speculative profit not generated firm will face big financial problem. Finally, excessive working capital makes management duty which collapse in to managerial inefficiency.

However effective working capital management helps to improve the earnings, profitability and reduce the risk of the business. The following proposition established considering the above literature,

H1: There is a significant impact of Capital Structure on Working Capital Management of capital goods companies in Sri Lanka.

3. Methodology

3.1 Study Design

The sample of this study covers all capital goods companies (29) listed on the CSE for the period from 2014 to 2018. This study is carried out based on the secondary data. The companies' financial data and information for the past five years period from 2014-2018 are taken into deep consideration in order to carry out the study. Financial data is taken from the secondary source that is annual reports of selected companies from CSE website.

3.2 Model Specification

The research attempts to identify the capital structure and its impact on working Capital Management of selected companies listed on CSE.

The regression model as follows

$$WCR_{it} = \beta_0 + \beta_1 DE_{it} + \beta_2 FS_{it} + \beta_3 ROE_{it} + \varepsilon_{it}$$

Where,

WCR_{it} = the working capital requirements of company 'i' for the period of 't'

DE_{it} = the debt to equity ratio 'i' for the period of 't'

FS_{it} = the firm's size 'i' for the period of 't'

ROE_{it} = the return on equity 'i' for the period of 't'

β_0 = the coefficient of regression

ε_{it} = the error term

4. Results and Arguments

4.1 Descriptive Figures

Various Descriptive statistics are calculated for the variables through SPSS 20.0 to describe the basic characteristics of these variables and to get clear idea about all the variables Table 1 provides the minimum and maximum value, mean, standard deviation, skewness and kurtosis of all variables.

Table 1 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
WCR	145	-13483.53	3619.87	-823.5220	2720.88665
DE	145	.05	608.29	87.7312	92.84861
FS	145	7.77	11.11	9.6812	.74006
ROE	145	-55.67	59.35	8.6745	14.29432

From the above table in which descriptive values of all the variables have been calculated as shown that all variables are based on the 145 observations. WCR represents working capital requirement. This is the dependent variables of this study. The minimum and maximum values of working capital requirement are -13483.53 and 3619.87 respectively. The average of working capital requirement is -823.52. The standard deviation is 2720.88.

DE represents Debt to Equity ratio. This is independent variable of this study. The minimum and maximum values of DE are 0.05 and 608.29 respectively. The mean, standard deviation values are 87.7312 and 92.84861.

FS represents Firm Size. It is measured by log of total assets. This is one of the controlling variables of this study. The minimum and maximum values of FS are 7.77 and 11.11 respectively. The mean, standard deviation values are 9.68 and 0.74. Furthermore, ROE is another controlling variable. It represents Return on Equity. The minimum and maximum values of ROE are -55.67 and 59.35 respectively. The mean, standard deviation values are 8.67 and 14.29.

4.2 Correlation Statistics

In statistics, correlation (often measured as a correlation coefficient, ρ) indicates the strength and direction of a linear relationship between two random variables. The correlation between variables is a measure of the nature and degree of association between the variables.

Table 2 Correlation Matrix

	DE	WCR	FS	ROE
DE	1	-.435**	.136	-.169*
WCR	-.435**	1	-.303**	-.112
FS	.136	-.303**	1	.095
ROE	-.169*	-.112	.095	1

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

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

The above Table 2 indicates the relationship between independent variable (DE) and dependent variable of listed companies in terms of correlation coefficient. Correlation coefficient of DE and WCR is -0.435 which indicates the negative relationship. Correlation coefficient of DE and controlling variable FS is 0.136 which indicates the positive relationship. Correlation coefficient of DE and controlling variable ROE is -0.169 which indicates the negative relationship.

4.3 Regression Statistics

This study is mainly used regression type of panel data analysis for hypotheses testing.

Table 3 Standardized Coefficient of WCR

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	8493.245	2583.780		3.287	.001
DE	-12.631	2.164	-.431	-5.836	.000
FS	-821.639	270.270	-.223	-3.040	.003
ROE	-29.295	14.066	-.154	-2.083	.039

Table 4 Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.522 ^a	.273	.257	2344.97995

The decision rule is, if *P* value is greater than 0.05, accept the null hypothesis and if *P* value is less than 0.05, reject the null hypothesis. According to the results indicated in Table 3, the Beta coefficient of debt to equity (DE) is -0.431. *P* value takes 0.000, which is less than 0.05: Thus, providing strong evidence, it is statistically concluded that capital structure has a significant negative impact on working capital management of capital goods companies in Sri Lanka. Therefore hypothesis H1 stated that there is a significant impact of Capital Structure on Working Capital Management of capital goods companies in Sri Lanka was accepted. Moreover, controlling variables of Return on Equity (ROE) and Firm size (FS) has negative significant impact on working capital requirement (WCR).

Table 4 reports that the R-value is 0.522 it means that there is a positive linear relationship between capital structure (CS) and working capital requirement (WCR) with selected controlling variables value of R Square is .273 Its statically conclude that 27.3% of variability of working capital requirement (WCR) is explained by debt to equity ratio (DE), firm size (FS) and return on equity (ROE). The remaining 72.7% is influenced by other factors which are not considered in this study.

5. Conclusion and Recommendation

This study investigated the impact of Capital Structure on Working Capital Management of Capital goods companies listed on Colombo Stock Exchange (CSE) using five years data from 2014 to 2018. The result of this study indicates that Debt to Equity ratio has significant negative impact on Working Capital Requirement from regression analysis. Finally, researchers conclude that there is a significant negative impact of Capital Structure on Working Capital Management of Capital goods companies in Sri Lanka.

Future research can consider all listed companies on Colombo Stock Exchange (CSE). This study has considered 29 listed companies in the Capital goods sector. Further, the future researchers may use primary data and secondary data by visiting to every company to collect the actual financial information. The researcher can use different model to analyze data and also researcher can collect the data for long period of time which will give more realistic results and best output for the research.

References

- Afza, T. and Nazir, M.S. (2008). Working Capital Management approaches and Firm's Returns. *Pakistan Journal of Commerce and Social Science*, 1, 25-36.
- Aktas, N., Croci, E., & Petmezas, D. (2015). Is working capital management value-enhancing? Evidence from performance and investments, *Journal of Corporate Finance*, 30, 98-113.
- Ali, K., Akhtar, M.F. & Sadaqat, S. (2011). Practical Implication of Capital Structure Theories: Empirical evidence from Pakistan, *European Journal of Social Sciences*, 23, 165-173.
- Anderson, R.W. (2002). Capital structure, firm liquidity and growth; National Bank of Belgium, *Working Paper Research*, No.27.
- Azam, M and Haider, S.I. (2011). Impact of Working Capital Management on Firms' Performance: Evidence from Non-Financial institutions of KSE-30 index. *Journal of Contemporary Research in Business* 3(5), 481-492.
- Bundala, (2014). Does Working Capital Intensity and Growth Opportunity of a Firm: Evidence from Tanzanian Firms. *International Journal of Accounting and Financial Reporting*, 4(1), 43-69.
- Eljelly, A.M.A. (2004). Liquidity-Profitability Tradeoff: An Empirical Investigation in an Emerging Market. *International Journal of Commerce and Management*, 14(2). 48-61
European Journal of Social Science, 23(1), 165-175.

- Ganesan, V. (2007). An Analysis of Working Capital Management Efficiency in Telecommunication Equipment Industry, *Rivier Academic Journal*, 3(2), 1-10.
- Kajanathan, R., & Achchuthan, S. (2013). Corporate Governance Practices and Its Impact on Working Capital Management: Evidence from Sri Lanka. *Research Journal of Finance and Accounting*, 4(3), 23-31.
- Padachi, K. (2006). Trends in Working Capital Management and Its Impact on Firms' Performance: An Analysis of Mauritian Small Manufacturing Firms. *International Review of Business Research Papers*, 2, 45-58.
- Pandey, I. M. (2005). *Financial Management*. 9 th edition, India, Vikas Irish Publication.
- Tsagem, M.M, Norhani, A & Ishaq, R (2014). Impact of working capital management and corporate governance on the profitability of small and medium-sized entities in Nigeria: A proposed model, *International Journal of Science Commerce and Humanities*, 2, 53-65.
- Modigliani, F., Miller, M. (1958). The coat of capital, corporation finance and the theory of investment, *American Economic Review*, 48, 261-297.
- Myers, S.C. (1984). The capital structure puzzle. *Journal of Finance*, 39(3), 575-592.
- Jensen, M.C. & Meckling W.H. 1976. Theory of the firm: Managerial behaviour, agency costs and ownership structure, *Journal of Financial Economics*, 3(4): 305-360.