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Working Capital Management and Profitability: An Analysis of Listed Commercial Banks in Sri Lanka

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Abstract: Decisions relating to working capital and short term financing are referred to as working capital management. These involve managing the relationship between a firm's short-term assets and its short-term liabilities. The objective of working capital management is to ensure that the firm is able to continue its operations and that it has sufficient cash flow to satisfy both maturing short-term debt and upcoming operational expenses. Working capital management is one of the essential determinants of firms' market value because it directly affects the profitability. This study investigates the relationship between working capital management and profitability of Colombo Stock Exchange (CSE) listed commercial banks in Sri Lanka. The objective of the study is to identify the relationship between the working capital management and profitability and its impact on profitability. The relation between the working capital management and profitability is examined using Pearson correlation analyses and the effects on profitability is found out using the regression analyses by using a sample of seven annual financial statements covering period 2007-2011 of listed commercial Banks in Sri Lanka. The working capital management represents the variables of the current ratio (CR), loans to deposit ratio (LDR) and cash ratio (CSR) and the profitability including the net profit margin (NPM), return on equity (ROA) and return on capital employed (ROCE). The conclusion of the study is that the CSR has great impact on NPM and ROA than other components which are influenced by other factors such as savings, interest rates other than CR and LDR. Working capital management has a great impact on the profitability of the Sri Lankan listed commercial banks and the value of the managers of commercial banks will have to increase value of the firm thereby controlling the level of optimal working capital position.

Keywords: Commercial Banks, Profitability, Working Capital Management.

I. INTRODUCTION

Working capital management is a vital element in managing finance of an enterprise due to the reasons such as to determine the composition of the capital for operating and investing in the firms. Excessive levels of current assets can easily result in a firm's realizing a substandard return on investment while, firms with too few current assets may incur shortages and difficulties in maintaining smooth operations [17] the efficient working capital management involves planning and controlling current assets and current liabilities to eliminate the risk of inability to meet short term financial obligations and the efficient working capital management avoids excessive investment in current assets [7]. The working capital management is dealing with current assets and current liabilities and directly affecting the liquidity and profitability of such firm. Current assets are the assets that in the normal course of business return to the form of cash within a short period of time, ordinarily within a year and such temporary investment as may be readily converted into cash upon need [2]. Also, current liabilities are the obligations that effect in implementing business activities in the normal course of business return to the form of cash within a short period of time, ordinarily within a year and such obligations as may be readily payable by cash upon need. The working capital management of a firm in part affects its profitability.

Working capital management is a very sensitive area in the field of financial management [11] which involves making decision on the amount and composition of current assets and its' financing. In financial management, the utmost aim of any firm is to maximize the profit. But, there is other important aim that the firm should preserving liquidity. In here, a problem incurs that increasing profits at the cost of liquidity [2] can bring serious problems to the firm. Therefore, there must be a trade off between the profitability and liquidity of the firm. One aim should not be at cost of the other because both profitability and liquidity have their importance. Unless any firm doesn't concern of profit, such firm cannot survive for a longer period. On the other hand, unless any firm doesn't concern of liquidity, such firm may be having insolvent or bankrupt. Therefore, even any organization should utmost care of working capital management and will finally affect the firm's profitability. This study focuses on working capital management and profitability of listed Commercial Banks in Sri Lanka.

II. RESEARCH PROBLEM

Effective working capital management focuses on keeping having an optimal level of working capital for maximizing organizational value. It results; large inventory and a justified trade credit policy may lead to high sales, larger inventory reduces the risk of a stock-out. Firm can encourage by providing the trade credit to increase sales because it allows customers to assess product quality before paying [6, 12]. Accounts payable which is the overdue payments to suppliers allows a firm to check the quality of bought products. Also accounts payable can be an inexpensive and flexible source of financing for any type of business firm and can be very costly if the firm is offered a discount for early payment. The working capital management is measured by using the cash conversion cycle. A longer cash conversion cycle might increase profitability because it leads to higher sales. However, corporate profitability might also decrease with the cash conversion cycle, if the costs of higher investment in working capital rise faster than the benefits of holding more inventories and/or granting more trade credit to customers. In this study, the research question is arisen as follows: "Does the working capital management affect the profitability of Sri Lankan listed Commercial Banks"?

III. LITERATURE REVIEW

Working capital management is a more popular study of research in a manner of different views in different environments. It is elucidated that efficient liquidity management involves planning and controlling working capital that reduces the risk of inability to meet due short-term obligations and avoids excessive investment in these assets [7]. According to a study the relation between profitability and liquidity was examined, as measured by current ratio and cash gap (cash conversion cycle) on a sample of joint stock companies in Saudi Arabia using correlation and regression analysis. The study found that the cash conversion cycle was of more importance as a measure of liquidity than the current ratio that affects profitability [2]. The size variable was found to have significant effect on profitability at the industry level. The results were stable and had important implications for liquidity management in various Saudi companies. First, it was clear that there was a negative relationship between profitability and liquidity indicators such as current ratio and cash gap in the Saudi sample examined. Second, the study also revealed that there was great variation among industries with respect to the significant measure of liquidity.

The most firms had a large amount of cash invested in working capital [5]. It can therefore be expected that the way of managing working capital will have a significant impact on profitability. Deloof [5] found that there is a significant negative relationship between gross operating income and the number of days accounts receivable, inventories and accounts payable of Belgian firms. Also he suggested that the value could be created by the managers for their shareholders by reducing the number of days' accounts receivable and inventories within a reasonable minimum [2]. The negative relationship between accounts payable and profitability is consistent with the view that less profitable firms wait longer to pay their bills.

The profitability and liquidity comprised the significant objective in working capital management as emphasized by Smith and Begemann [16]. The problem arose because the maximization of the firm's returns could seriously threaten its liquidity, and the pursuit of liquidity had a tendency to dilute returns [2]. This article evaluated the association between traditional and alternative working capital measures and return on investment (ROI), specifically in industrial firms listed on the Johannesburg Stock Exchange (JSE). The problem under investigation was to establish whether the more recently developed alternative working capital concepts showed improved association with return on investment to that of traditional working capital ratios or not. Results indicated that there were no significant differences amongst the years with respect to the independent variables. The results of their stepwise regression corroborated that total current liabilities divided by funds flow accounted for most of the variability in Return on Investment (ROI). The statistical test results showed that a traditional working capital leverage ratio, current liabilities divided by funds flow, displayed the greatest associations with return on investment. Well-known liquidity concepts such as the current and quick ratios registered insignificant associations whilst only one of the newer working capital concepts, the comprehensive liquidity index, indicated significant associations with return on investment.

Several research studies have concluded the importance of working capital management of enterprises in a manner of different views in different environments (See Table 1). According to the above researches and related studies, those provide a strict position on the importance of having a feasible working capital management position including each components. Also those give the findings that the researchers have already conducted this area of research in several countries and different aspects.

IV. OBJECTIVES

The main aim of this research is focusing on working capital management and its impact on profitability for Sri Lankan listed commercial banks. To achieve this aim, the following objectives are proposed:

- To identify the relationship between the working capital management and profitability of the CSE listed commercial banks.
- To find out the effects of different components of working capital management on profitability.

Table 1: Different research findings

No.	Researcher and year	Basis of Industry	Relationship between WCM & Profitability
01.	Amit, Sur and Rakshit (2005)	Indian pharmaceutical industries	No definite relationship
02.	Narware (2004)	Fertilizer Company	both negative and positive
03.	Mukhopadhyay (2004)		loans and advances, and other current assets hardly had only role to contribute in sales
04.	S.C. Bardia (2004)		positive relationship
05.	Ghosh and Maji (2004)	Indian cement industries	relationship between effective utilization of current assets and profitability of the companies, although there seemed to be a wide range in the degrees of such relationship between company to company
06.	Biswas and Ganguly (2001)	Indian aluminum producing industry	very significant positive association
07.	Govind Rao and Rao (1999)	Indian cement industry	both positive as well as negative correlations
08.	Vijaykumar and Venkatachalam (1995)	Tamil Nadu sugar industry	Liquidity was negatively associated with Profitability.
09.	Vishnani at el., (2007)	company's inventory management policy, debtors' management policy and creditors' management policy	important role in its profitability Performance.
10.	Padachi (2006)	Small manufacturing firms	Positively impacted on its profitability.

V. Significance of the Study

According to the subject area in the research, the researchers made an attempt to address and make experiment to do a research to fill up a knowledge and exposure in banking industry, which will be supportive for ongoing and future consideration and utilization on the decision making under liquidity/leverage conditions in financial management in Sri Lanka. In this financial discipline, research studies, forum discussions, researches and term papers on various kinds on working capital management and profitability are in the process. Also most of the financial management specialists also emphasise the importance of sharing information on the discipline for working capital management, determinants and the impact of WCM into firm's profitability in their books, articles and websites etc. According to the ideas of the researchers reveal that:

- This study will attempt to emphasis on the importance of working capital related to the entire operations of any organization especially in Sri Lankan banking companies for the purpose of revealing the effectiveness of the progress of finance performance.
- There is a growing trend in Sri Lanka in the field of banking, so that they would have understood and practiced to evaluate the importance of working capital for the purpose of interpreting the financial performance of the firm so that the financial capabilities of the business or the people who are engaging operating decision making. This is almost important to evaluate the effective utilization of funds to keep the optimal level of leverage as well as profitability of the firm.

- This research would be beneficial to know understand and evaluate the interrelationship between the working capital management and profitability, so that the banking firms may have a stance on maintaining significant level of liquid assets in order to maintain optimal cash position to be withdrawn on the demand of the customers so that they are making decisions which facilitates to a sustainable profitability though their effective fulfilment of customer requirements and industry financing.
- The banking companies are the most liquid and financially channelling throughout the economy of the country, so that banking and insurance companies cater intermediate facilitation to other sectored companies in fulfilling their financial requirements and investment needs for the smooth functioning of the business operations. Therefore, the working capital management of these companies should be ideally positioned and least cost adapted to perform better financial performance in order to achieve the objectives.

According to the above experience, this research will be treated cohesive path in decision making for effective managing in finance for the purpose of implementing the operations and it can be justified as "it is important that to be aware of the fact that working capital is not only about considered at the stage of maintaining day to day operating cycle but it is also the key role to the successful functioning to the future stability of both financial / operational stand of any organisation. Therefore, this research will be idle for the purpose as above into the business world according to the findings and data collected and the knowledge gathered from books, articles and term papers, which I read for the purpose of supporting to do successful and productive study.

VI. Conceptual Model

Based on the above formulated research question and the literature review, the following conceptual model is formulated to illustrate the relationship between the working capital management and profitability (See Figure 1).

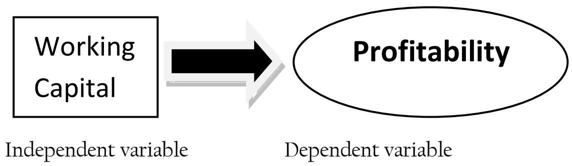

Figure 1: Conceptual Framework

VII. Hypothesis

According to the above model, following hypothesis were formulated in this research are:

H_1: There is a positive relationship between the working capital management and the profitability in Sri Lanka listed commercial banks.
H_2: The working capital management and profitability is positively correlated.
H_0: There is a negative relationship between the working capital management and the profitability in Sri Lanka listed commercial banks.

VIII. METHODOLOGY

This section provides the information about the sample selected, sources of data and the data analysis model on this research.

1) Sample size: In this study, seven Commercial Banks listed in CSE, Sri Lanka has been selected from the period of 2007 to 2011 and it was used 35 year observations to find out the results. The financial year to the company is at the end of 31st of December in each year and all companies were selected on the availability of data in the captured data range from 2007 to 2011.
2) Data collection: In this study, the secondary data have been used and the data was collected from the financial statements of Commercial Banks in the CSE Reports.
3) Data analysis model: This research examines the relationship between working capital management and profitability by using statistical package for social sciences (SPSS). Three Linear multiple regression models used in this research by using three categories of independent variables; Working Capital Management; Current Ratio (CR), Loan to Deposit ratio (LDR) and Cash Ratio (CSR). The dependent variables used in this research by including the Net Profit margin (NPM), Return on Assets (ROA) and Return on Capital Employed (ROCE). Based on the dependent variable, three multiple regression models have been formulated as follows:

$$NPM = \alpha+\beta_1 CR+\beta_2 LDR+\beta_3 CSR+\xi$$
$$ROA = \alpha+\beta_1 CR+\beta_2 LDR+\beta_3 CSR+\xi$$
$$ROCE = \alpha+\beta_1 CR+\beta_2 LDR+\beta_3 CSR+\xi$$

CR – Current Ratio; NPM – Net Profit Margin; LDR– Loans to Deposit Ratio; ROA – Return on Assets; CSR – Cash Ratio; PBT – Profit before Tax; PAT – Profit after Tax; ROCE – Return on Capital Employed where α is a constant, β_is are coefficients of variables, ξ is residual term.

In order to understand the relationship that exists between the working capital management and the profitability, the researchers have calculated the following indicators for the commercial banks in the sample:

- CR = Current Assets / Current Liabilities
- LSR = Loans and advances / Deposits
- CSR = Cash and cash equivalents / Current Liabilities
- NPM = (PAT / Interest Income) × 100
- ROA = (PAT / Total Assets) × 100
- ROCE = (PBT / Total Equity) × 100

IX. Discussion

1) Correlation Analysis: Correlation is concerned in describing the strength of relationship between two variables. In this study the correlation co-efficient analysis is undertaken to find out the relationship between working capital management and profitability. It shows the amount of relationship exist between working capital management and profitability. According to the correlation Analysis, the overall results are shown in Table 2.
   - Table 2 shows the Pearson's correlations of the ratios are shown for analysis. In dependent variable NPM, a positive insignificant relationship can be observed with independent variables (CR, LDR and CSR).
   - In dependent variable ROA, a positive insignificant relationship can be observed with independent variables (CR, LDR and CSR).
   - In dependent variable ROCE, a negative relationship can be observed between CR. In LRD and CSR there is a positive relationship with ROCE. But all independent variables are not significant.

Table 2: Correlation analysis of data

		CR	LDR	CSR	NPM	ROA	ROCE
CR	Pearson Correlation	1	-0.209	0.379	0.119	0.126	-0.277
	Sig. (2-tailed)		0.653	0.402	0.799	0.788	0.548
	N	7	7	7	7	7	7
LDR	Pearson Correlation	-0.209	1	0.036	0.407	0.342	0.109
	Sig. (2-tailed)	0.653		0.939	0.365	0.452	0.816
	N	7	7	7	7	7	7
CSR	Pearson Correlation	0.379	0.036	1	0.725	0.705	0.316
	Sig. (2-tailed)	0.402	0.939		0.065	0.077	0.491
	N	7	7	7	7	7	7
NPM	Pearson Correlation	0.119	0.407	0.725	1	0.979**	0.681
	Sig. (2-tailed)	0.799	0.365	0.065		0.000	0.092
	N	7	7	7	7	7	7
ROA	Pearson Correlation	0.126	0.342	0.705	0.979**	1	0.780*
	Sig. (2-tailed)	0.788	0.452	0.077	0.000		0.039
	N	7	7	7	7	7	7
ROCE	Pearson Correlation	-0.277	0.109	0.316	0.681	0.780*	1
	Sig. (2-tailed)	0.548	0.816	0.491	0.092	0.039	
	N	7	7	7	7	7	7

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

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

Source: Collected data from the annual reports at CSE website www.cse.lk

2) Regression analysis: Is used to test the impact of financial performance on capital structure of the listed companies traded in Colombo stock exchange.

   Table 2 shows that the impact of CR, LDR and CSR on NPM, ROA and ROCE. The CSR has great impact on NPM and ROA than other components which are influenced by other factors such as savings, interest rates other than current ratio and LDR.

Table 3: Regression analysis of dataset

Model	Predictors	R	R^2	Adjusted R^2	Std. Error of the Estimate
NPM	(Constant)CR	0.119[a]	0.014	-0.183	3.9600
ROA	(Constant)CR	0.126[a]	0.016	-0.181	0.3758
ROCE	(Constant)CR	0.277[a]	0.077	-0.108	6.1889
NPM	(Constant)LDR	0.407[a]	0.165	-0.001	3.6436
ROA	(Constant)LDR	0.342[a]	0.117	-0.059	0.3559
ROCE	(Constant)LDR	0.109[a]	0.012	-0.186	6.4017
NPM	(Constant)CSR	0.725[a]	0.526	0.431	2.7457
ROA	(Constant)CSR	0.705[a]	0.498	0.397	0.2685
ROCE	(Constant)CSR	0.316[a]	0.100	-0.080	6.1112

Source: Collected data from the annual reports at CSE website www.cse.lk

3) Descriptive Statistics: The Descriptive procedure displays univariate summary statistics for several variables in a single table and calculates standardized values. Variables can be ordered by the size of their means (in ascending or descending order), alphabetically, or by the order in which you select the variables. Here, the sample consists of seven listed banking companies traded in Colombo stock exchange. It refers the following items: Sample size, mean, minimum, maximum and standard deviation.

Table 4: Descriptive data analysis

	N	Minimum	Maximum	Mean	Std. Deviation
CR	7	0.76	1.04	0.9129	0.0986
LDR	7	0.69	1.31	0.8514	0.2063
CSR	7	0.03	0.08	0.0514	0.0177
NPM	7	5.94	16.40	11.8500	3.6409
ROA	7	0.66	1.67	1.2957	0.3458
ROCE	7	12.06	29.07	24.7943	5.8792
Valid N (list-wise)	7				

Source: Collected data from the annual reports at CSE website www.cse.lk

Table 4 shows the values of range, minimum, maximum, mean and variance of independent, dependent variables. ROCE has high mean value of 24.79% than other variables. It has high maximum value of 29.07. At the same time according to the above table CSR has low maximum value and low mean value too than other variables. The maximum and minimum values for each performance measures indicate that the performance varies substantially among companies.

X. CONCLUSION

From the above discussion, the researchers are of the view that the working capital management has a great impact on the profitability with keeping an optimal level of liquidity of the Sri Lankan listed commercial banks and the value of the managers of commercial banks will have to increase value of the firm thereby controlling the level of optimal working capital position. On basis of the above analysis we may further suggest that these results can be further strengthened if the banking firms manage their working capital in more efficient ways and to keep optimally liquid in order to attain required profitable positions. In the banking industry Management of working capital fulfils the role of maintaining cash converting power to pay their customers according to the requirements so that the financial managers should concentrate to keep their liquidity position and the bank should maximize their profit accordingly. If these banking firms properly manage their funds in a proper way, this will ultimately increase profitability of these companies.

XI. Future Research

There is much to be done the researches about working capital in Sri Lanka in future. Also, the researcher suggest that further researches should be conducted on the same topic with different sectors at CSE and among the relative sectors (Hotels and Travels and Plantation sectors etc.) with other extending the duration of the sample. The scope of further research may be extended to the working capital components management including cash, marketable securities, receivables and inventory management etc. In addition, the following recommendations can be made in order to ascertain the value addition of investors' speculation:

1) Working capital management standards and parameters should be established and communicated to the investors. This will help investors to achieve the standard and take better investment decisions.
2) Impact of socio-economic condition in the country should be considered when the decisions are being taken, so that it is to identify the weaknesses of investment may be the best one to improve the firm's financial performance (which decision into which investment).
3) Forecasting working capital management information should be disclosed to the existing and potential investors so that they can motivate to help to achieve the high level of firm's financial performance.
4) Political changes are very important factor in the share market. It also determines the firm performance. Therefore, political should be possible to increase the financial performance of the listed companies.
5) Impact on inflation and exchange rate fluctuations is very important in managing short-term funding so that the financial managers of the specified banking and insurance sectors should always concentrate the optimal fund utilizing movements to attain high financial performance.

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