IOSR Journal of Economics and Finance (IOSR-JEF)
e-ISSN: 2321-5933, p-ISSN: 2321-5925. Volume 12, Issue 1 Ser. IV (Jan. – Feb. 2021), PP 52-57
www.iosrjournals.org

Working Capital Management and its Impact on Profitability in Sonali Bank Ltd, Bangladesh

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Abstract: *Working Capital refers to that part of the firm's capital, which is required for financing short-term or current assets such a cash marketable securities, debtors and inventories. Funds thus, invested in current assets keep revolving fast and are constantly converted into cash and this cash flow out again in exchange for other current assets. It is an attempt to investigate the effects of working capital management efficiency as well as effects on the profitability of Sonali Bank Limited, Bangladesh. This tries to find out whether empirical results on the relationship between working capital management practices and profitability of Sonali Bank Limited, Bangladesh. The data was collected from secondary sources; this data was mainly collected from published financial statements. This data was a period of 5 years from 2013 to 2017.The descriptive statistics such as mean and standard deviation were used to measure variations. Correlation and regression analysis were used to analyze the data and testing of hypotheses. It is found that working capital variables like credits payment period, leverage, growth and credit risk has negative relation with return on equity but there was a positive relation with Cash Conversion Cycle and Debtors collection period. Among six hypotheses only two hypotheses were accepted. It can conclude that there is a relationship with working capital management variables with profitability.*

Keywords: *Working Capital Management, Profitability, ROE, Cash marketable securities, Cash Conversion Cycle, Correlation and regression analysis.*

Date of Submission: 23-01-2021 Date of Acceptance: 07-02-2021

I. Introduction

Working Capital is also known as revolving or circulating capital or short-term capital Among all the problem of financial management, the problems of working capital management have probably been recognized as the most crucial one. It is because of the fact that working capital always helps a business concern to gain vitality and life strength. Sonali Bank conducts its business to provide services to the customers and society at large and thus maximizes values for its stakeholders in a fair, transparent and ethical way. Profit maximization is not the sole objective of the Bank. Along with profit earning we are committed to make positive contribution to the economy and the society as a whole in a sustainable manner. That is why, besides earning profit, Sonali Bank is proud to bear the responsibility of implementing various welfare programs and initiatives of the government, thereby becoming the inseparable partner of the noble work of the government intended to uplift the socio-economic condition of the poor. The visible return from these services may not be encouraging from business standpoint, but the return is high from the social-cost benefit perspective. Sonali Bank Limited achieved substantial growth during the year under review. The cost of Fund stood at 5.95% in 2017, decreasing from 6.95% in 2016. The net profit of the Bank rose to Tk. 7,091.66 million from Tk. 1,516.21 million in 2016 and EPS of the Bank stood at Tk. 18.50 in 2017 rising from Tk. 3.96 in the previous year. Operational efficiency, lower cost of fund resulting from improved deposit mix, minimization of operating cost and increase in non-funded income have contributed to the higher profit. Besides, a substantial amount of income is generated from various services introduced.

While some banks have had to liquidate like Oriental Banks (bankrupt), BASIC Bank Limited and Janata Bank Limited have huge cash crisis. Even though strong empirical support may not be found to support the assertion that poor working capital management practices could play a major in bank performance and failures, very few would deny it. These are the major motivations for the current study. Specifically, the study unveils the relationship between working capital management and profitability of Sonali Bank Limited (SBL) as a sample of a case study.

Many researchers have studied working capital form different views and in different environments, the following ones were very interesting and useful for this research: The choice of working capital policy affects the profitability of firms. Aggressive financing policy has greater portion of current liabilities relative to current assets. This working capital structure leads to high liquidity risk and expected profitability. On the other hand, conservative working capital policy has grater current assets to current liability. This is to ensure moderate liquidity risk through lower financing cost which also leads to moderate profitability, Czyzewaski and Hicks,and Afza and Nazir(2009), Garcia and Martinez studied the effects of working capital management on the profitability of a sample of small and medium-sized firms. They found that managers can create value by reducing their inventories and the number of days for which their accounts are outstanding. Moreover, shortening the cash conversion cycle also improves the firm's profitability. Chakraborty(2008) ,evaluated the relationship between working capital and profitability of companies. Singh, found that size of inventory directly affects working capital and its management. He suggested that inventory was the major component of working capital and need to be carefully controlled. Singh and Pandey (2008) suggested that for successful working capital of any business organization, fixed and current assets play a vital role, and that the management of working capital is essential as it has a direct impact on profitability and liquidity. Lazaridis and Tryfonidis (2006), investigated the relationship of corporate profitability and working capital management for firms listed at Athens Stock exchange. They reported that there is statically significant relationship between profitability measured by gross operating profit and cash conversion Cycle. Furthermore, Managers can create profit by correctly handling the individual components of working capital to an optimum level. Similar results with very few disparities are shown in Kenya Mathuva, Siddiquee and Khan (2009) found that, firms which are better at managing working capital are found to be able to make counter cycle moves to build competitive advantage. They are also better at generating fund internally and also face lesser trouble while seeking external sources of financing. Rahman and Naser, Studied the relationship between working capital management and corporate profitability for firms listed on Karachi Stock Exchange using static measure of liquidity and ongoing operating measure of working capital management during. It was found that there exists a negative relation between working capital management measures and profitability.

All the above studies provide us a solid base and give us idea regarding working capital management and its components. They also give us the results and conclusions of these researchers already conducted on the same area for different countries and environment from different aspects. On basis of these researchers done in different countries, this paper developed own methodology for research.

II. Material and Methods

Methodology is the technique through which the research will be done. To do this research secondary data have been used mostly. SBL is one of the renowned names in the banking industry of Bangladesh. This paper contains the analysis of five years data of SBL from the period of 2014 to 2018.

2.1 Data sources: The nature of this report is quantitative. For this report data is collected from primary and secondary sources.

Primary data is collected directly from the organization from personal interaction with the finance manager and other employees of finance department of the company. Secondary data is mainly collected from the annual reports of the company as well as some previous work on working capital management. Some websites are also used as reference while doing this research.

- Official website of Sonali Bank Ltd.

Study Duration: From the period of 2014 to 2018.

2.2 Data analysis

As it is a quantitative report, data have been tabulated, analyzed and interpreted with the help of different financial ratios and statistical tools and most of the calculation was done through Microsoft Excel and SPSS.

III. Working capital policy in Sonali Bank Ltd

In simple terms working capital can be defined as current assets minus current liabilities. When a company is unable to manage its current liability through its current asset's liquidity problem arises. This can threaten the future existence of the company. On the other hand, when there are excess cash, a company should invest in short term securities to enhance the wealth of the shareholders. Working capital policy can be mainly classified in three categories. They are defensive policy, aggressive policy and conservative policy. If the firm can forecast accurately its level and pattern of sales, inventory procurement time, inventory usage rates, level and pattern of production, production cycle time, split between cash sales and credit sales, collection period, and other factors which impinge on working capital components, the investment in current assets can be defined uniquely. In case of uncertainty, the outlay on current assets would consist of a basic component meant to meet normal requirements and a safety component meant to cope with unusual demands and requirements. The safety component depends on how conservative or aggressive is the current asset policy of the firm. If the firm pursues very conservative policy it would carry a high level of current assets in relation to sales. If the firm adopts a moderate policy, it would carry a moderate level of current assets in relation to sales. Finally, if the firm follows a highly aggressive policy, it would carry a low level of current assets in relation to sales. The relationship between current assets and sales under these different current asset policies is shown in the above figure. A conservative current asset policy tends to reduce risk. The surplus current assets under this policy enable the firm to cope rather easily with variations in sales, production plans, and procurement time. Further, the higher liquidity associated with this policy diminishes the chances of technical insolvency. The reduction of risk, however, is also accompanied by lower expected profitability. The aggressive working capital policy is company's intention to fund its working capital through short term debt. This policy is thought to be cheap because funds such as overdraft can be called upon when needed and the interest will be paid only when an overdraft is taken unlike long-term debt where interest has to be paid for the entire loaned amount for the year.

IV. Research Design

This research is ex-post facto research. This approach evaluates the relationship between variables which have been already occurred. Here variables were used to test the relationship between the working capital management and the profitability. Here used quantitative methods as financial data collected from the database was analyzed.

The time series will be used to do the research. This is because going to use five-year time periods and observe the behaviors of working capital components, debt and size of the firm throughout those ten years from 2013 to 2017.

4.1 Variables

This study undertakes the issue key variables that may influence working capital management of Sonali Bank Limited (SBL). Choice of the variables is influenced by the previous studies on working capital management. All variables stated below have been tested the hypotheses of this study. They include dependent and independent and some control variables:

For the purpose of analysis, the ultimate measurement of profitability has been chosen to be return on equity (ROE).

4.2 Variables calculations

Dependent variable: Return on equity (ROE) (y) = Net Income after Taxes / Total Equity Capital.
Independent Variables are: CCC, CPP, DCP, TDA, GRO and LLR.
x1 =Cash Conversion Cycle (CCC): Debtors collections period –Creditors payment period
x2=Creditors Payment Period (CPP): Short term debt/Interest expense
x3=Debtors Collection Period (DCP): Current Assets/Investment Income
x4= Leverage (TDA): Total Debt/Net Asset
x5=Bank Growth (GRO) = Year on Year change in interest Income
x6=Credit Risk (LLR): Non-Performing Loan/Gross Loan

4.3 Hypothesis

H01 - There is a no statistically significant relationship between CCC and profitability of the bank.
H02 - There is a no statistically significant relationship between CPP and profitability of the bank.
H03 - There is a no statistically significant relationship between DCP and profitability of the bank.
H04 - There is a no statistically significant relationship between TDA and profitability of the bank.
H05 - There is a no statistically significant relationship between GRO and profitability of the bank.
H06 - There is a no statistically significant relationship between LLR and profitability of the bank.

V. Results & Discussion

The Table-1 gives the descriptive statistics of the collected variables. The mean and median of Return on Equity (ROE) is 20.32% and 20.01% respectively. The Cash Conversion Cycle (CCC) shows that, it takes the bank's around 203 days on average (median 276 days). While creditors' payment period (CPP) average is 311 days (median 312 days). On the other hand, Debtors collection period (DCP) shows average is 518 days. It means Islamic bank takes longer time to collect money then it disburses cash to its customers. Leverage (TDA) mean is 52.42%. Growth rate (GRO) mean is 15.87% and median is 19.44%. Credit risk (LLR) is mean is 2.94 and median is 2.85.

	Min	Max	Mean	Median	Standard Deviation	Variance
CCC	37	313	2.03	2.76	121.1	1.469
CPP	281	351	3.1180	3.12	28.64	820.7
DCP	349	640	5.1880	5.57	114.54	1.312
TDA	1.83	2.53	52.42	2.49	112.12	1.257

GRO	1	24.41	15.868	19.44	9.86	97.206
LLR	2.35	3.81	2.9460	2.85	0.63	0.392
ROE	0.99	24.70	20.32	20.01	4.59	21.062

Table-1: Descriptive Statistics

VI. Pearson's Correlation Coefficient Analysis

Table 2 presents Pearson Correlation coefficients for all variables are considered. There is a strong positive correlation between Return on Equity (ROE) with Cash Conversion Cycle (CCC) and Debtors Collection Period (DCP) that is 76.4% and 65.5% respectively. But there is a negative relationship between the Creditors Payment Period (CPP), Leverage (TDA), Growth (GRO) and Credit Risk (LLR) that is -39.5%, -42.9%, -25%, 72.3% respectively relations with profitability. By analyzing the results, it is concluded the result is significant and If Sonali Bank Ltd increases working management then bank's profitability will be decreased.

VII. Correlation between Profitability Ratio and Working Capital Ratios

VAR	PROF (ROE)	CCC	CPP	DCP	TDA	GRO	LLR
PROF (ROE)	1						
CCC	.764	1					
CPP	-.395	-.452	1				
DCP	.655	.954	-.175	1			
TDA	-.429	.021	.207	.135	1		
GRO	-.250	-.848	.118	-.901	-.396	1	
LLR	-.723	-.972	.312	-.966	-.197	.900	1

Table-2: Correlation Matrix

VIII. Regression Analysis

From the below (Table 3) calculation it shows that there is a significant relationship between dependent variable and independent variables. And at 5% level of significance the correlation for Cash conversion cycle is 75.4%. Here, adjusted R square is .445 which means that about 44.5% variation of dependent variable is explained by independent variables included in this model. Table 3 shows the regression results run on Sonali Bank Ltd. From ANOVA test it is revealed that the table significance value is grater that the calculated value. So, it rejected four (4) null hypotheses (CPP is .119, DCP is .06, TDA is .064, and LLR is .09) and two (2) null hypotheses are accepted (CCC is .02 and Growth is .02) at % 5 level of significance. It means there is a significant relation between dependent variable and independent variables. But there is not significant relationship between bank Cash conversion cycle and growth with profitability. Thus, it can conclude that the there is a strong significant relationship between working capital management and bank profitability.

From below table (3) shows that, R are 76.4%, R2 is 58.4% and Adjusted R square for CCC is 44.5% and F statistics for CCC is 42.08%. That means Cash Conversion Period is positively related with ROE that means its profitability. If bank increases its Cash Conversion Period (CCC) then it increases banks profitability.

But for Creditors Payment Period (CPP) results show that the R is 39.5%, R2 is 15.6%, and Adjusted R square for CCP is 12.5%. But coefficient is -2.9%. That means Creditors Payment Period is negatively related with profitability.

Deferral Cash Payment (DCP) results shows that, R is 65.5%, R2 square is 43% and Adjusted R Square is 23.9% and F statistics for DCP is 22.59% and t=1.503. It means that Deferral Cash Payment period (DCP) is positively related with Return on Equity (ROE). If bank increases its Deferral Cash Payment period then it increases banks profitability.

A leverage (TDA) result shows that, R is 42.9%, R2 is 18.4%, Adjusted R square is 8.8%, F=67.5%, t=-82.2%, coefficient is -42.9% and at 5 % level of significance. TDA results shows that there is strong negative relation between leverage ratios with ROE. If leverage increases then banks profits of the banks will be declined.

The result of multiple regression test results shows that growth (GRO) R is 51.6%, R2 is 26.6%, Adjusted R square is 2.2%, f=1.088, t=-1.043 and coefficients is -51.6%. The result indicated that ROE has more negative relationship with GRO. If banks increase its growth then it reduces its profitability.

A multiple regression test done to credit risk (LLR) the results shows that the R is 72.3%, R2 is .52.2%, Adjusted R square is 52.2% f=3.280, t=-1.811 and coefficients is -72.3%. The result indicated that ROE has significant relationship with LLR. The result indicated that ROE has strong negative relationship with LLR. If banks increase its credit risk then it reduces its profitability.

Dependent variable	Independent variable	R	R Square	Adjusted R Square	Coefficients	F-test	T-Stat	Stad. Error
ROE	CCC	.764	.584	.445	.764	.4208	2.051	.013
ROE	CCP	.395	.156	.125	-.029	.556	-.746	.039
ROE	DCP	.655	.430	.239	.655	.2259	1.503	.007
ROE	TDA	.429	.184	.088	-.429	.675	-.822	.014
ROE	GRO	.516	.266	.022	-.516	1.088	-1.043	.105
ROE	LLR	.723	.522	.363	-.723	3.280	-1.811	1.335

Table-3: Regression Analysis

IX. Findings

After conducting the paper through various analysis and evaluation of influence of WCM on SBL's Profitability, many findings have been found; it includes both positive and negative findings.

The function of corporate finance department of SBL is distinguished and certain. This has sound standard operating procedures for accomplishing every task. SBL has an efficient and effective distribution strategy. SBL follows an aggressive working capital policy. It’s collection of loans proceeds system and fund disbursement systems are convenient for both borrowers and depositors. For effective fund collection system, the collection of account receivable is excellent over the years and it takes in between 237 to334days low processing time to collect fund which is satisfactory. For efficient liquidity management the department is able to make payment to its creditor as early as possible. Hence accounts payable period is comparatively low in this organization which is 129.72 and above in the year 2014 and 2017. The inventory conversion period of SBL is too high hitting a maximum of 171.78 in the year 2014-2017. Since it cannot convert inventory into sales quickly enough, its inventory increases resulting in decreased quick ratio. This higher inventory period ensures smooth supply of the products to the customers.

SBL has strong and good liquidity position and had no opportunity to run out from short-term financial solvency and this ability rises gradually (Current/Quick/Cash). The current ratio rate is between 1 and 1.3 which indicates a sound liquidity position of the company. But after 2011 the quick ratio which was 0.38 started to increase, though it is still very low. SBL’s most of debts consist of creditors, accrual and bank overdraft where borrowing cost is insignificant. SBL’s asset-liability management efficiency increased day by day. The company increases its sales through inventory control and was efficiently managing and selling its inventory so they tied up the fewer funds.

After analyzing the correlation between profitability and working capital components, it has been found that inventory period, CCC and size of the firm have significant impact on profitability. After regression analysis shows a positive relation of profitability with payable days, gearing ratio and size of the firm. The analysis shows negative relation of receivable period and inventory period with profitability.

X. Conclusion

It can conclude that the there is a significant relationship between working capital management and Sonali Bank Ltd’s profitability. Efficient working capital management has a direct effect a firm profitability even through a greater proportion of these studies are based one Islamic bank. This paper focused and analyzed on working capital practice of Sonali Bank Ltd. Throughout its life its contribution in socio economic prospect of Bangladesh has the greater significance. The conclusion is in confirmation this paper finding is similar with (Deloof 2003), (Eljelly 2004), (Shin and Soenan 1998) who found a strong negative relationship between the measures of working capital management including the average collection period, inventory turnover in days, average payment period and cash conversion cycle with corporate profitability. On basis of the above analysis, it may further conclude that these results can be further strengthened if the banks manage their working capital in more efficient ways. There is much to be done about working capital in Islamic Bangladesh in future. This paper suggests that further research be conducted on the same topic with different banks and extending the years of the sample.

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Ayrin Sultana. “Working Capital Management and its Impact on Profitability in Sonali Bank Ltd, Bangladesh.” *IOSR Journal of Economics and Finance (IOSR-JEF)*, 12(1), 2021, pp. 52-57.