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Assessing Relationship between Working Capital Management and Return on Equity of Islamic Bank Bangladesh Limited

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Abstract: *This paper is an attempt to investigate the effects of working capital management efficiency as well as effects on the profitability of Islami Bank Bangladesh Limited. The paper tries to find out whether empirical results on the relationship between working capital management practices and profitability of bank like Islamic Bank Bangladesh Limited. The data was collected from secondary sources; this data was mainly collected from published financial statements. This data was over a period of 5 years from 2008 to 2012.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. This paper 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 (ROE uses as a proxy).*

Keywords*: Working Capital Management, Profitability, IBBL, ROE*

Introduction

Working Capital 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. 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.

Islami Bank Bangladesh Limited was established in 1983 and started functioning with effect from March 30, 1983. It was the first kind of Islamic Bank in Southeast Asia. This bank is committed towards conducting all the banking activities free of interest and based on Profit-loss sharing system. The actual role of Islamic bank inherits in promoting and empowering the banking services and product based on Islamic principles. The main principles of Islamic banking comprise of prohibition of interest in all forms of transactions, and undertaking business and trade activities on the basis of fair and legitimate profit (Haron and Shanmugan, 1997).

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This study seeks to investigate the problems a bank like IBBL bank that is an Islamic bank and it working capital management and its effect on bank profitability. Working Capital has an important role played by banks in developing countries also like Bangladesh. The banking industry also appears not to be doing badly, In spite of its importance and attractiveness, not all banks have had it easy operating in the country. While some banks have had to liquidate like Oriental Banks (bankrupt), BASIC Bank Limited Sonali 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 Islami Bank Bangladesh Limited (IBBL) as a sample of a case study.

- **Objectives:**

  - To examine the relationship between working capital management andprofitability of Islami Bank Bangladesh Ltd (IBBL) during 2008-2012.
  - To suggest some measures for improvement in working capital management ofIslami Bank Bangladesh Ltd (IBBL).

1.3. Literature Review

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, 1992 and Afza and Nazir,2009).

Garcia and Martinez (2007) 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 (2008) 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, 2009).

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 (2007). Studied the relationship between working capital management and corporate profitability for 94 firms listed on Karachi Stock Exchange using static measure of liquidity and ongoing operating measure of working capital management during 1999-2004. It was found that there exit 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.

- **METHODS:**

The researcher attempted to study the secondary data have been collected and the data were collected from annual reports. The study covers five years from 2008-2012. There are 9 Islamic Banks in Bangladesh, among them eight (8) banks are private commercial and one (1) bank is Foreign Islamic bank in Bangladesh. Among eight private commercial banks one Islamic bank that was the Islami Bangladesh Limited (IBBL) has been selected as a case study for said research.

Variables:

This study undertakes the issue key variables that may influence working capital management of Islami Bank Bangladesh Limited (IBBL). 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 tobe return on equity (ROE).

Variables calculations

Dependent variable: Return on equity (ROE) (y) = Net Income after Taxes / TotalEquity Capital.

Independent Variables are: CCC, CPP, DCP, TDA, GRO and LLR.

x_1 =Cash Conversion Cycle (CCC): Debtors collections period –Creditors paymentperiod

x_2=Creditors Payment Period (CPP): Short term debt/Interest expense x_3=Debtors Collection Period (DCP): Current Assets/Investment Incomex_4= Leverage (TDA): Total Debt/Net Asset

x_5=Bank Growth (GRO) = Year on Year change in interest Incomex_6=Credit Risk (LLR): Non Performing Loan/Gross Loan

Hypothesis of the Study:

$H0_1$ - There is a no statistically significant relationship between CCC and profitability ofthe bank.

$H0_2$ - There is a no statistically significant relationship between CPP and profitability ofthe bank.

$H0_3$ - There is a no statistically significant relationship between DCP and profitability ofthe bank.

$H0_4$ - There is a no statistically significant relationship between TDA and profitability ofthe bank.

$H0_5$ - There is a no statistically significant relationship between GRO and profitability ofthe bank.

$H0_6$ - There is a no statistically significant relationship between LLR and profitability ofthe bank.

- **RESULTS AND 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.

Table-01: Descriptive Statistics

	Min	Max	Mean	Median	Stand 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	1.87	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	13.85	24.70	20.32	20.01	4.59	21.062

- **Pearson's Correlation Coefficient Analysis (IBBL)**

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 IBBL increases working management then bank's profitability will be decreased.

Correlation between Profitability Ratio and Working Capital Ratios

Table-02: Correlation Matrix.

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

Source: SPSS

3.3 Regression Analysis

From the below (Table 3 and 4) 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 and 4 shows the regression results run on Islamic Bank Bangladesh Limited. 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 and 4) shows that, R are 76.4%, R^2 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%, R^2 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%, R^2 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 banksprofitability.

A leverage (TDA) result shows that, R is 42.9%, R^2 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%, R^2 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%, R^2 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.

Table-03: Regression Model

Model (a)	ROE	14.574+0.013X	CCC	.02	Accept
Model (b)	ROE	26.267-0.29X	CPP	.119	Reject
Model (c)	ROE	11.512+0.011X	DCP	.06	Reject
Model (d)	ROE	24.086-2.930X	TDA	.064	Reject
Model (e)	ROE	18.993-0.110X	GRO	.02	Accept
Model (f)	ROE	24.378-2.418X	LLR	.09	Reject

** Significant at the level of 0.005 **Source: SPSS Result**

Table-04: Regression Analysis

Dependent variable	Independent variable	R	R Square	Adjusted R Square	Coefficients	F-test	T-Stat	Std. Error
ROE	CCC	.764	.584	.445	.764	.4208	2.051	.013
ROE	CPP	.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

Source: SPSS Result

- **Conclusion:**

It can conclude that the there is a significant relationship between working capital management and IBBL 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 Islami Bank Bangladesh Ltd. Throughout its life its contribution in socio economic prospect of Bangladesh has the greater significance. The conclusion is in confirmation this paper finding are 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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