A Comparative Study on Performance and Working Capital Management of Al-Arafah Islami Bank Limited and Islamic Bank Bangladesh Limited

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Abstract

The objective of this paper is to critically evaluate the working capital management as practiced in the two Islamic banks in Bangladesh. To achieve this goal, the study also examines the policy and practices of cash management, evaluates the principles, procedures and techniques of CCC, debtors collection period (DCP), creditors’ payment period (CPP), GRO and loan loss reserves (LLR) are used as a working capital variables and return on equity (ROE) is used as a profitability variable. For this study the data from last five years (2008 - 2012) have been used. The key findings from the study are: cash conversion cycles are positively related with two Islamic banks profitability. Two variables like Bank creditors’ payment period and growth of the two banks have significant negative relationship with profitability; but debtors’ collection period, Credit risk, Leverage have shown different results for two banks. Leverage and credit risk have significant positive relationship with profitability of AIBL bank. The performance of AIBL bank is better in some aspects like cash conversion cycle, creditors’ payment period, credit risk and growth. On the other hand, the performance of IBBL Bank is better in some facets like debtors’ payment period and leverage. Overall results show that the working capital management of AIBL bank is better that of IBBL bank.

Keywords: Working Capital Management; Profitability; Liquidity; AIBL; IBBL

1. Introduction

Bangladesh is one of the countries in the world with a very large Muslim population. The people of this country are deeply committed to Islamic way of life as enshrined in the Holy Quran and the Sunnah. Islamic banking practices have grown from 10% to 15% rate on a worldwide basis. At present, the financial system in Bangladesh consists of the central bank,
nationalized commercial or specialized banks, private banks, foreign banks and other non-bank financial institution.

This paper is based on two commercial Sharia based Islamic Banks that is the Al-Arafah Islami Bank Limited (AIBL) and Islamic Bank Bangladesh Limited (IBBL).

Among all the problems 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. Working capital management is concerned with the problems that arise, while the finance manager attempts to manage the current assets, the current liabilities as well as the inter relationship that exist between them. Working capital requirement in business and banks along with its importance in banking business sector cannot be undermined. It has been considered the essence and controlling nerve centre of business. Also, it is looked upon as the driving force behind a finance manager. A bank requires both fixed and current assets; in the present day context of management of working capital and relationship with profitability of two Islamic banks. The inefficient management of working capital not only reduces profitability but ultimately may also lead a concern to financial crisis. It is also known that both excessive and inadequate working capital is harmful for a bank or firm. Excessive working capital leads to un-remunerative use of scarce funds. On the other hand, inadequate working capital usually interrupts the normal operations of a business and capital. Working capital management is aimed at sustaining strong profitability together with sound liquidity, which in turn leads to strong cash holdings for ensuring effective and efficient customer services. Banking liquidity (working capital variables) represents the capacity of a bank to finance itself efficiently through transaction. In spite of its importance and attractiveness, not all banks have had it easy operating in the country. Even though strong empirical support may not be found to support the assertion that poor working capital management practices could play a major role in bank performance which may lead to failures, but very few would deny it. These are the major motivations for the current study. Islamic banks dominate 32% banking sector of Bangladesh. Specifically, the study unveils the relationship between working capital management and profitability of two major Islamic Banks which are Al-Arafah Islami Bank Limited (AIBL) and Islami Bank Bangladesh Ltd. (IBBL) as a sample of this study.
2. Objectives of the Study

The major objectives of this present study are to examine and evaluate the working capital management in two major Islamic banks. To attain the key objective, the following are listed as the specific objectives:

(i) To know the working capital management of two Islamic banks
(ii) To analyse and evaluate working capital aspects and its impact on profitability
(iii) To compare the working capital management of AIBL with IBBL
(iv) To suggest some measures for improvement in working capital management of two Islamic banks

3. Literature Review

Many researchers have studied working capital from different views and in different environments, the following ones were very interesting and useful for this research:

Czyzewaski and Hicks, (1992) and Afza and Nazir, (2007) worked on working capital management. They found that working capital policy affects the profitability of firms.

Melita-(2010) investigated the effects of working capital management on firm’s financial performance in Cyprus. This paper found cash conversion cycle and days in inventory, day’s sales outstanding and credit payment period are associated with firm profitability.

Elielly (2006) tried to establish a relationship between profitability and liquidity. He worked with 929 joint stock companies in Saudi Arabia. He found significant negative relationship between the firms’ profitability and its liquidity level. Moreover, he found that current ratio effects on firm profitability.

Nasr and Raheman (2007) worked on Pakistani firms. They used net operating profit as a proxy of profitability for working capital management and they used average collection period, inventory turnover, cash conversion cycle, debt ratio, average payment period etc. They found significant negative relation between profitability and working capital variables.

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 maximize the value of the organization 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. Chakrabory (2008) evaluated the relationship between working
capital and profitability of companies. He found that working capital has relationship with profitability.

Singh (2008) found that the 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 in Athens Stock exchange. They reported that there is a 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.

Doof (2003) worked on Belgian firms, where he found significant negative relationship between working capital variables and profitability. For profitability variables he used gross operating income and net operating income for working capital management. He used sales, sales growth, accounts receivables, number of days’ inventories, number of days accounts payable, cash conversion cycle, financial debt and fixed financial assets.

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

4. Methodology

The sample selected for this study is Islami Bangladesh Limited (IBBL) and Al-
Arafah Islami Bank Limited (AIBL). The study covers a five year long period from 2008-2012. The study is based on secondary data which is collected from annual reports of the banks. Currently eight Sharia based Islamic banks are operating in Bangladesh; two banks are taken as a sample; this data covers 25% of the population. The collected data has been tabulated, analysed and interpreted with the help of statistical tools like percentages, average, different ratios, and correlation and regression test. Six hypotheses have been taken to statistically arrive at conclusion.

4.1 Model of Variables

The basic model for the study that has been followed is:

\[ Y_{it} = a + \beta X_{it} + e_{it} \]

Where the subscript i denotes the cross-sectional dimension and t represents the time-series dimension. \( Y_{it} \) represents the dependent variable in the model, which is bank’s Return on Equity (ROE). \( X_{it} \) contains the set of explanatory variables in the estimation model. \( X \) contains working capital variables. 'a' is the constant and \( \beta \) represents the coefficients and \( e \) represents is the error term.

4.2 Variables

The variables are chosen in this study are also influenced by the previous researches and studies on the working capital management. This study undertakes the issue key variables that influence working capital management of Islami Bank Bangladesh Limited (IBBL) and Al-Arafah Islami Bank Limited (AIBL). All chosen variables stated below have been tested using the hypotheses of this study. They include dependent, independent and some control variables:

### Table 1: Chosen variables

<table>
<thead>
<tr>
<th>No</th>
<th>Variables (Y)</th>
<th>Method used for Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Return on Equity (ROE) =</td>
<td>Dependent variable: Net Income after Taxes / Total Equity Capital.</td>
</tr>
<tr>
<td></td>
<td>Variables (X)</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Cash Conversion Cycle (CCC) =</td>
<td>Independent Variables: Working Capital Ratios</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Debtors collections period – Creditors payment period</td>
</tr>
</tbody>
</table>
Creditors Payment Period (CPP) = \frac{\text{Short term debt}}{\text{Interest expense}}

Debtors Collection Period (DCP) = \frac{\text{Current Assets}}{\text{Investment Income}}

Leverage (TDA) = \frac{\text{Total Debt}}{\text{Net Asset}}

Bank Growth (GRO) = \frac{\text{Year on Year change in interest income}}{}

Credit Risk (LLR) = \frac{\text{Non-Performing Loan}}{\text{Gross Loan}}

### 4.3 Research Hypothesis

H01: There is no statistically significant relationship between CCC and profitability of the bank.

H02: There is no statistically significant relationship between CPP and profitability of the bank.

H03: There is no statistically significant relationship between DCP and profitability of the bank.

H04: There is no statistically significant relationship between TDA and profitability of the bank.

H05: There is no statistically significant relationship between GRO and profitability of the bank.

H06: There is no statistically significant relationship between LLR and profitability of the bank.

### 5. Analysis and Findings

#### 5.1 Descriptive Statistics

The following table gives the descriptive statistics of the collected variables. The profitability, (ROE) mean and median of AIBL bank is 21.32% and 24.01%, respectively. The result of IBBL bank shows similar results of ROE, the mean and median of return on equity (ROE) is 20.32% and 20.01% respectively.

The CCC shows that, it takes the AIBL bank around 93 days on average (median 107 days) and for IBBL bank 203 days on average (median 276 days) to show results. It can be concluded that AIBL bank CCC is better than the IBBL bank.

While creditors’ payment period (CPP) is minimum 179 days, maximum 253 days and average
of 241 days (median 205 days) for AIBL bank. On the other hand, creditors’ payment period (CPP) is minimum 281 days, maximum 351 days and average of 311 days (median 312 days) for IBBL bank. AIBL banks performance is better than the IBBL bank, in case of creditors’ payment period.

Debtor’s collection period shows minimum 255 days, maximum 360 days and average of 307 days for AIBL bank. IBBL bank’s debtor’s collection period (DCP) shows minimum 349 days, maximum 640 days and average of 518 days. IBBL banks performance is better than the AIBL bank in case of Debtors collection period.

AIBL bank shows leverage (TDA) minimum 1%, maximum 70.57% and mean of 8%. IBBL bank leverage (TDA) minimum 1.87%, maximum 2.53% and mean of 52.42%. IBBL bank used more leverage than the AIBL bank.

AIBL bank credit risk (LLR) is minimum 1.06%, maximum 3.01% and has a mean and median of 1.96% and 1.82%, respectively. Credit risk (LLR) is minimum 2.35%, maximum 3.81% and has a mean of 2.94% and median of 2.85% for IBBL bank. AIBL bank has less risk than the IBBL bank.

Table 2: Descriptive Statistics (AIBL)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>Median</th>
<th>Stand Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCC (AIBL)</td>
<td>44</td>
<td>127</td>
<td>93</td>
<td>1.07</td>
<td>33.037</td>
</tr>
<tr>
<td>CCC (IBBL)</td>
<td>37</td>
<td>313</td>
<td>2.03</td>
<td>2.76</td>
<td>121.1</td>
</tr>
<tr>
<td>CCP (AIBL)</td>
<td>179</td>
<td>253</td>
<td>214</td>
<td>2.05</td>
<td>30.433</td>
</tr>
<tr>
<td>CCP (IBBL)</td>
<td>281</td>
<td>351</td>
<td>3.118</td>
<td>3.12</td>
<td>28.64786</td>
</tr>
<tr>
<td>DCP (AIBL)</td>
<td>255</td>
<td>360</td>
<td>3.07</td>
<td>3.09</td>
<td>4.9719</td>
</tr>
<tr>
<td>DCP (IBBL)</td>
<td>349</td>
<td>640</td>
<td>5.188</td>
<td>5.57</td>
<td>114.53908</td>
</tr>
<tr>
<td>TDA (AIBL)</td>
<td>5.55</td>
<td>10.25</td>
<td>8.002</td>
<td>7.59</td>
<td>2.12856</td>
</tr>
<tr>
<td>TDA (IBBL)</td>
<td>1.87</td>
<td>253</td>
<td>52.42</td>
<td>2.49</td>
<td>112.12464</td>
</tr>
<tr>
<td>GRO (AIBL)</td>
<td>1</td>
<td>70.57</td>
<td>27.22</td>
<td>24.49</td>
<td>27.33</td>
</tr>
<tr>
<td>GRO (IBBL)</td>
<td>1</td>
<td>24.41</td>
<td>15.868</td>
<td>19.44</td>
<td>9.85932</td>
</tr>
<tr>
<td>LLR (AIBL)</td>
<td>1.06</td>
<td>3.01</td>
<td>1.966</td>
<td>1.82</td>
<td>.71</td>
</tr>
<tr>
<td>LLR (IBBL)</td>
<td>2.35</td>
<td>3.81</td>
<td>2.9460</td>
<td>2.85</td>
<td>0.6260</td>
</tr>
<tr>
<td>ROE (AIBL)</td>
<td>15.49</td>
<td>24.55</td>
<td>21.32</td>
<td>24.01</td>
<td>4.103</td>
</tr>
<tr>
<td>ROE (IBBL)</td>
<td>13.85</td>
<td>24.70</td>
<td>20.32</td>
<td>20.01</td>
<td>4.58929</td>
</tr>
</tbody>
</table>
5.2 Pearson’s Correlation Coefficient Analysis

Pearson’s Correlation analysis is used to find the relation between two variables i.e. both the banks show that there is a strong positive correlation between ROE with cash conversion cycle. IBBL bank shows more positive relation than the AIBL bank. There was a negative relationship with creditors’ payment period and growth for the two banks, which means if both the banks increases the length of time it takes to pay for loans and other payments, it reduces the burden on their cash and therefore, gives them the opportunity to hold more cash and cash equivalent. If both the bank increases its growth, it would reduce its profitability. CPP, DCP and GRO are -26.7%, -15.7%, -37.3%, respectively of profitability of AIBL bank. It means that if AIBL bank decreases the credit payment period, debtors’ payment period and growth, it increases the profitability of this bank. CPP, DCP and GRO shows different observation for IBBL bank that is creditors payment period (CPP), leverage (TDA), growth (GRO) and credit risk (LLR) that is -39.5%, -42.9%, -25%, -72.3% respective of relations with profitability. To increase the profitability the IBBL bank should reduce the creditor’s payment period, leverage and growth. By analysing the results, it is concluded that the results are significant and there is a relationship between working management and profitability of two Islamic Banks in Bangladesh.

5.3 Correlation between Profitability Ratios and Working Capital Ratios

*Table 2: Correlation Matrix. (AIBL)*

<table>
<thead>
<tr>
<th>VAR</th>
<th>PROF(ROE)</th>
<th>CCC</th>
<th>CPP</th>
<th>DCP</th>
<th>TDA</th>
<th>GRO</th>
<th>LLR</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROF (ROE)</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCC</td>
<td>.051</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPP</td>
<td>-.267</td>
<td>-.169</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DCP</td>
<td>-.157</td>
<td>.681</td>
<td>.607</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TDA</td>
<td>.643</td>
<td>.239</td>
<td>-.868</td>
<td>-.452</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GRO</td>
<td>-.373</td>
<td>-.644</td>
<td>-.004</td>
<td>-.522</td>
<td>-.068</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>LLR</td>
<td>.478</td>
<td>.053</td>
<td>-.892</td>
<td>-.620</td>
<td>.785</td>
<td>-.265</td>
<td>1</td>
</tr>
</tbody>
</table>
5.4 Correlation between Profitability Ratio and Working Capital Ratios

Table-3: Correlation Matrix. (IBBL)

<table>
<thead>
<tr>
<th>VAR</th>
<th>PROF (ROE)</th>
<th>CCC</th>
<th>CPP</th>
<th>DCP</th>
<th>TDA</th>
<th>GRO</th>
<th>LLR</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROF (ROE)</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCC</td>
<td>.764</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPP</td>
<td>-.395</td>
<td>-.452</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DCP</td>
<td>.655</td>
<td>.954</td>
<td>-.175</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TDA</td>
<td>-.429</td>
<td>.021</td>
<td>.207</td>
<td>.135</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GRO</td>
<td>-.250</td>
<td>-.848</td>
<td>.118</td>
<td>-.901</td>
<td>-.396</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>LLR</td>
<td>-.723</td>
<td>-.972</td>
<td>.312</td>
<td>-.966</td>
<td>-.197</td>
<td>.900</td>
<td>1</td>
</tr>
</tbody>
</table>

5.5 Regression Analysis

Appendix I & II show the regression results related with the two Islamic Banks in Bangladesh. ANOVA test reveals that for AIBL and IBBL the table significance value is greater than the calculated value. So, it rejected four null hypotheses (CPP is .119, DCP is .06, TDA is .064, and LLR is .09) and two null hypotheses were accepted for IBBL bank (CCC is .02 and Growth is .02) at % 5 level of significance. On the other hand, AIBL bank shows that one null hypothesis is accepted (DCP is .025) and other hypotheses are rejected (CCC is .082, CPP is .203, TDA is .413, GRO is .139 and LLR is .228) at % 5 level of significance.

5.6 Hypothesis 1

From (Appendix- II) shows that, R is 76.4%, \( R^2 \) is 58.4% and Adjusted R square for CCC is 44.5% and F statistics for CCC is 42.08% for IBBL bank but R is 5.1%, \( R^2 \) is 3% and Adjusted R square for CCC is 33% and F statistics for CCC is 8% for AIBL bank. That means cash conversion period is positively related with ROE for both the banks but IBBL bank has more positive relation than the AIBL bank. If bank increases its Cash Conversion Period (CCC) then it increases banks profitability.
5.7 Hypothesis 2

(Appendix- II) Creditors’ Payment Period (CPP) results show that the R is 39.5%, $R^2$ is 15.6%, Adjusted R square for CCP is -12.5%. But coefficient is -2.9% for IBBL bank. Whereas, R is 26.7%, $R^2$ is 7.1%, Adjusted R square for CCP is -23.8%. That means Creditors Payment Period is negatively related with profitability for both of the Islamic banks. If banks able to reduces the creditors’ payment period then banks can increase its profitability.

5.8 Hypothesis 3

(Appendix- II) Deferral Cash Payment (DCP) results for IBBL bank 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 $t=1.503$. But Deferral Cash Payment (DCP) results for AIBL bank shows different results, R is 15.7%, $R^2$ square is 2.5% and Adjusted R Square is -3% and F statistics for DCP is 7.6% and $t=-27.6%$. It means that deferral cash payment period (DCP) is positively related with return on equity (ROE) for IBBL bank. If bank increases its deferral cash payment period then it increases banks’ profitability. DCP is negatively related with profitability for AIBL bank.

5.9 Hypothesis 4

(Appendix- II) A leverage (TDA) result shows that the effect of working capital ratio as a proxy use as a leverage (TDA) effects on profitability. It is found that for Leverage (TDA) 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 for IBBL bank. TDA results show that there is strong negative relation between leverage ratios with ROE for IBBL bank. If leverage increases then IBBL bank profits will decline but opposite results given for AIBL bank, ie, leverage (TDA) for AIBL bank shows R is 64.3%, $R^2$ is 41.3%, Adjusted R square is 21.8, $F=64.3\%$, $t=145.4\%$ , coefficient is 64.3%.

5.10 Hypothesis 5

(Appendix- II) The result of multiple regression test results shows that growth (GRO) for two banks gave similar results. IBBL bank shows, R is 34.3%, $R^2$ is 13.9%, Adjusted R square is -14.8%, $f=48.6$, $t=-.697$ and coefficients is – 51.6%. AIBL bank shows, R is 51.6%, $R^2$ is 26.6%, Adjusted R square is 26.2%, $f=1.088$, $t=-1.043$ and coefficient is -6.3%. The result
indicated that ROE has more negative relationship with GRO. If both the banks increase its growth then it reduces its profitability.

5.11 Hypothesis 6

A multiple regression test done to test credit risk (LLR), the results show that the R is 72.3%, \( R^2 \) is 52.2%, adjusted R square is 36.3% \( f=3.280 \), \( t=-1.811 \) and coefficient is -72.3% for IBBL bank. The result indicated that ROE has significant relationship with LLR for IBBL bank. The result indicated that ROE has strong negative relationship with LLR. If banks increase its credit risk then it reduces its profitability. On the contrary, LLR the results for AIBL bank shows that the R is 47.8%, \( R^2 \) is 22.8%, Adjusted R square is -2.9% \( f=.887 \), \( t=94.2 \) and coefficient is 76.4%.

6. Conclusion & Recommendations

The results of the study show that from the studied banks, the performance of AIBL bank is better in some ratios like cash conversion cycle, creditors’ payment period credit risk and growth. However, on the other hand, the performance of IBBL Bank is better in some aspects like debtors’ payment period and leverage. Overall results show that the working capital management of AIBL bank is better that the IBBL bank. It can be concluded that the there is a significant relationship between working capital management and banks profitability. Efficient working capital management has a direct effect on a firm's profitability even through a greater proportion of this study is based on two Islamic banks. The conclusions are in confirmation, this findings of this paper are similar with (Deloof 2003), (Eljelly 2004) and (Shin & Soenan 1998) who found a strong negative relationship between the measures of working capital management including the average collection period, inventory turnover in days and average payment period with corporate profitability. This study found cash conversion cycle has positively related with profitably of two Islamic banks. This result is contradictory with previous studies. On the basis of above analysis, it can be further concluded 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 Banks in 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. This research was based limited with two Islamic banks. So get a clear picture there will
lot of opportunities for researchers for further research.

References


