

# A Comparative Operating Performance Analysis of Islamic Bank Bangladesh Limited and Dutch-Bangla Bank Limited Using Hypothesis Test

Md. Monirul Islam<sup>1</sup>  
Department of Finance and Banking  
Islamic University  
Kushtia, Bangladesh

Md. Roknujjaman<sup>2</sup>  
Lecturer, Department of Textile Engineering  
Uttara University  
Dhaka, Bangladesh

**Abstract:- Operating performance Measurement is an important criterion to evaluate the overall efficiency of an organization. It is anxiety with the total earnings or the income generated and the total expenditure or the investments incurred by a bank. Thus, operating performance measurement may be defined as the ability of a given investment, to earn a return on it. It helps in understanding the operating profit and the operational situation of a bank. In this paper, I have selected two private Islam based and non-Islam based commercial banks to measure the operating performance in our banking sector. After analyzing various collected data, Profit and Loss Account and Balance sheet of IBBL and DBBL on light Operating Performance through various ratios, From the study of Operating Performance Measurement, a comparative study between IBBL and DBBL, it is found that both banks have great potentiality to earn desired profit.**

**Keywords:- Operating performance, Ratio analysis, Islamic Bank Bangladesh Limited and Dutch-Bangla Bank Limited.**

## I. INTRODUCTION

Bank as a financial institution has a strong historical background. Actually, the banking system operated as full-service industry, performing directly or indirectly all financial services. Banks mobilize savings and make it advances to investors and by this process it makes profit. As they do their business with the public money, their business structure is totally different from the other business. Banks have to repay the public when they demand, either it makes or not. So, analyzing the performance of bank should be perfectly. The measurement of bank operating performance is a complex process involving the interaction between the environment, internal operation and external activities. The ultimate objective of the measurement is to maximize the value the bank's equity share by attaining the optimal mix return and risk. In this respect bank management needs to develop a comprehensive plan in order to identify objectives, goals, budget and strategies that will be consistence with the maximization of share values. The initial method of measuring internal performance is analyzing financial statements. The

performance of external is effective measured by evaluating the banks share, regulatory compliance and public confidence. Because of increasing innovation and deregulation in the financial services sector, internal and external competitiveness is much more important than the previous. In 1998, the World Bank published "Bangladesh: An Agenda for Action" in which it has suggested lots for recommendations for economic development in our country [10]. These recommendations include special presentation for reforming banking sectors. Islamic Bank Bangladesh Ltd and Dutch Bangla Bank Ltd are two private banks in Bangladesh. These have a great impact in our country. IBBL has started their journey from 1983 [13] and DBBL from 1996 in our country [14].

## II. RESEARCH METHODOLOGY

Research methodology is a technique that has been used to solve the research problem systematically [11]. Researcher not only need to know how to develop certain indicators and tests, how to calculate mean, median, mode or standard deviation and chi-square, how to apply particular technique but they also need to know which of these methods or techniques, is relevant or not and what would they mean and why. Operating performance measurement is based on ratios which have been used for making a fair comparison [1]. For this performance measurement, a number of indicators have been used in this study. These include loan to total assets, loan to deposit, cash to total assets, equity to total assets, operating profit to total assets, operating expense to profit, operating expense to total assets, return on equity, operating profit margin. For calculating these operating ratios, data of both banks have been collected between the year of 2011 and 2015 [8][9]. These data include loans, total assets, deposit, cash, equity, operating profit, operating expense, revenue and profit of both banks. There are some problems that are explained by using regression analysis. The trouble lays with the selection the ratios and regression to be really helpful and practically useful. The package of selected ratios should be small, simple and logically consistent so that valid and fair analysis can be made.

**III. DATA ANALYZING**

Analyzing the operating Performance measurement is so much essential for each and every business institution as well as for the Banking institutions. Operating performance measurement typically is associated with ratio analysis. Ratio analysis involves the methods of calculating and interpreting the activity ratios to analyze the firm’s relative activity performance. The main purpose of this analysis is to analyze and monitor the firm’s operating performance, so, that the interested parties (both the external and internal) can realize the firm’s true performance easily, which is so much essential for the parties. Various ratios for measuring

operating performance of commercial bank are analyzed below:

*A. Loan to Total Assets Ratio*

Loan to total assets is the operating ratio of a commercial bank. It helps assess the operating performance of a commercial bank. Calculated by dividing a company's loan by its total assets, loan to total assets ratio is displayed as a percentage.

$$\text{Loan Total Assets Ratio} = \frac{\text{Loan}}{\text{Total Assets}} \times 100$$

| Year | IBBL               |              |           | DBBL               |              |           |
|------|--------------------|--------------|-----------|--------------------|--------------|-----------|
|      | Loan               | Total Assets | Ratio (%) | Loan               | Total Assets | Ratio (%) |
| 2011 | 305840.56          | 389192.12    | 78.58     | 99365.87           | 123267.0     | 80.61     |
| 2012 | 372920.72          | 482536.32    | 77.28     | 82639.29           | 151859.6     | 54.41     |
| 2013 | 406804.56          | 547229.63    | 74.34     | 69564.63           | 185537.6     | 37.49     |
| 2014 | 463475.47          | 652422.04    | 71.04     | 119217.55          | 215993.5     | 55.19     |
| 2015 | 530194.50          | 725821.21    | 73.05     | 141916.49          | 244057.6     | 58.15     |
|      | Average            |              | 74.86     | Average            |              | 57.17     |
|      | Standard Deviation |              | 2.75      | Standard Deviation |              | 13.78     |

Table 1. Loan to Total Assets Ratio (In Million Tk.)

Source: Annual Report on IBBL & DBBL 2011-2015

➤ *Interpretation*

Table No: 1 shows that loan to total assets ratio in 2011 of IBBL is 78.58% and DBBL is 80.61%, in 2012 of IBBL is 77.28% and DBBL is 54.41%, in 2013 of IBBL is 74.34% and DBBL is 37.49%, in 2014 of IBBL is 71.04% and DBBL is 55.19%, in 2015 of IBBL is 73.05% and DBBL is 58.15%. From the above table, we can say that loan to total assets performance of IBBL is better than DBBL because of loan to total assets ratio of IBBL in every year is greater than DBBL except 2011.

➤ *Calculation of Z test*

Let us take the null hypothesis that there is no significant difference in loan to total assets ratio between the two banks during the study period, i.e.  $H_0: \mu_1 = \mu_2$

$$z = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{S_1^2}{\mu_1} + \frac{S_2^2}{\mu_2}}} = \frac{74.86 - 57.17}{\sqrt{\frac{(2.75)^2}{5} + \frac{(13.78)^2}{5}}} = 2.82$$

Since our computed value of  $Z = 2.82$  is greater than critical value of  $Z = 1.96$  (5% level) and  $Z = 2.57$  (1% level), we

reject the null hypothesis. Hence, loan to total assets ratio of two banks differ significant.

*B. Loan to Deposit Ratio*

The loan to deposit ratio helps assess a bank's liquidity, and by extension, the aggressiveness of the bank's management. If the loan to deposit ratio is too high, the bank could be vulnerable to any sudden adverse changes in its deposit base. Conversely, if the loan to deposit ratio is too low, the bank is holding on to unproductive capital and earning less than it should.

$$\text{Loan Total Deposit Ratio} = \frac{\text{Loan}}{\text{Deposit}} \times 100$$

| Year | IBBL               |           |           | DBBL               |           |           |
|------|--------------------|-----------|-----------|--------------------|-----------|-----------|
|      | Loan               | Deposit   | Ratio (%) | Loan               | Deposit   | Ratio (%) |
| 2011 | 305840.56          | 341853.67 | 89.47     | 99365.87           | 143326.10 | 69.33     |
| 2012 | 372920.72          | 417844.14 | 89.25     | 82639.29           | 123893.00 | 66.70     |
| 2013 | 406804.56          | 473140.96 | 85.98     | 69564.63           | 99601.30  | 69.84     |
| 2014 | 463475.47          | 560696.30 | 82.66     | 119217.55          | 163505.70 | 72.91     |
| 2015 | 530194.50          | 615359.21 | 86.16     | 141916.49          | 183937.10 | 77.15     |
|      | Average            |           | 86.70     | Average            |           | 71.19     |
|      | Standard Deviation |           | 2.50      | Standard Deviation |           | 3.57      |

Table 2. Loan to Deposit Ratio (In Million Tk.)

Source: Annual Report on IBBL & DBBL 2011-2015

➤ Interpretation

Table 2 shows that loan to deposit ratio in 2011 of IBBL is 89.47% and DBBL is 69.33%, in 2012 of IBBL is 89.25% and DBBL is 66.70%, in 2013 of IBBL is 85.98% and DBBL is 69.84%, in 2014 of IBBL is 82.66% and DBBL is 72.91%, in 2015 of IBBL is 86.16% and DBBL is 77.15%. From the above table, we can say that loan to deposit performance of IBBL is better than DBBL because of loan to deposit ratio of IBBL in every year is greater than DBBL.

➤ Calculation of Z test

Let us take the null hypothesis that there is no significant difference in loan to deposit ratio between the two banks during the study period, I.C.  $H_0: \mu_1 = \mu_2$

$$z = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{s_1^2}{\mu_1} + \frac{s_2^2}{\mu_2}}} = \frac{86.70 - 71.19}{\sqrt{\frac{(2.50)^2}{5} + \frac{(3.57)^2}{5}}} = 7.95$$

Since our computed value of  $Z= 7.95$  is less than critical value of  $Z= 1.96$  (5% level) and  $Z=2.57$  (1% level), we reject the null hypothesis. Hence, loan to deposit ratio of two banks differ significant.

➤ Cash to Total Assets Ratio

The cash assets ratio is the current value of marketable securities and cash, divided by the company's current liabilities. Also known as the cash ratio. The asset ratio compares the Tk. Amount of highly liquid assets for every one Tk. of short-term liabilities. It is similar to the current ratio.

$$\text{Cash to Total Assets Ratio} = \frac{\text{Cash in hand}}{\text{Total Assets}} \times 100$$

| Year | IBBL               |              |           | DBBL               |              |           |
|------|--------------------|--------------|-----------|--------------------|--------------|-----------|
|      | Cash               | Total Assets | Ratio (%) | Cash               | Total Assets | Ratio (%) |
| 2011 | 40631.91           | 389192.12    | 10.44     | 3535.95            | 123267.0     | 2.86      |
| 2012 | 41774.01           | 482536.32    | 8.66      | 5644.38            | 151859.6     | 3.72      |
| 2013 | 44291.52           | 547229.63    | 8.09      | 7489.00            | 185537.6     | 4.04      |
| 2014 | 46219.36           | 652422.04    | 7.08      | 6332.08            | 215993.5     | 2.93      |
| 2015 | 55256.08           | 725821.21    | 7.61      | 8297.0             | 244057.6     | 3.34      |
|      | Average            |              | 8.38      | Average            |              | 3.39      |
|      | Standard Deviation |              | 1.16      | Standard Deviation |              | .44       |

Table 3. Cash to Total Assets Ratio (In Million Tk.)

Source: Annual Report on IBBL & DBBL 2011-2015.

➤ Interpretation:

Table 3 shows that Cash to total assets ratio in 2011 of IBBL is 10.44% and DBBL is 2.86%, in 2012 of IBBL is 8.66% and DBBL is 3.72%, in 2013 of IBBL is 8.09% and

DBBL is 4.04%, in 2014 of IBBL is 7.08% and DBBL is 2.93%, in 2015 of IBBL is 7.61% and DBBL is 3.34%. From the above table, we can say that cash assets performance of IBBL is better than DBBL because of Cash to total assets ratio of IBBL in every year is greater than DBBL. So, it pays its short-term obligation easily than DBBL.

➤ *Calculation of Z test*

Let us take the null hypothesis that there is no significant difference in cash to total assets ratio between the two banks during the study period,  $H_0: \mu_1 = \mu_2$

$$z = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s_1^2}{\mu_1} + \frac{s_2^2}{\mu_2}}} = \frac{8.38 - 3.39}{\sqrt{\frac{(1.16)^2}{5} + \frac{(0.44)^2}{5}}} = 8.96$$

Since our computed value of  $Z= 8.96$  is greater than critical value of  $Z= 1.96$  (5% level) and  $Z=2.57$ (1%level), we reject the null hypothesis. Hence, cash to total assets ratio of two banks differ significant.

➤ *Equity to Total Assets Ratio*

The equity to assets ratio is just a simplified way to look at a balance sheet and to distill it down to answer one question: what percentage of a company’s assets do investors own? Calculated by dividing a company's shareholder’s equity by its total assets, equity to total assets ratio is displayed as a percentage.

$$\text{Equity to Total Assets Ratio} = \frac{\text{Shareholders equity}}{\text{Total Assets}} \times 100$$

| Year | IBBL               |              |           | DBBL               |              |           |
|------|--------------------|--------------|-----------|--------------------|--------------|-----------|
|      | Equity             | Total Assets | Ratio (%) | Equity             | Total Assets | Ratio (%) |
| 2011 | 27613.75           | 389192.12    | 7.10      | 8939.62            | 123267.0     | 7.25      |
| 2012 | 39701.56           | 482536.32    | 8.23      | 10854.50           | 151859.6     | 7.15      |
| 2013 | 43788.67           | 547229.63    | 8.00      | 12641.72           | 185537.6     | 6.81      |
| 2014 | 46594.36           | 652422.04    | 7.14      | 14517.44           | 215993.5     | 6.72      |
| 2015 | 47292.65           | 725821.21    | 6.52      | 16754.34           | 244057.6     | 6.86      |
|      | Average            |              | 7.40      | Average            |              | 6.96      |
|      | Standard Deviation |              | .63       | Standard Deviation |              | .21       |

Table 4. Equity to Total Assets Ratio (In Million Tk.)

Source: Annual Report on IBBL & DBBL 2011-2015

➤ *Interpretation*

Table 4 shows that equity to total assets ratio in 2011 of IBBL is 7.10% and DBBL is 7.25%, in 2012 of IBBL is 8.23% and DBBL is 7.15%, in 2013 of IBBL is 8.00% and DBBL is 6.81%, in 2014 of IBBL is 7.14% and DBBL is 6.72%, in 2015 of IBBL is 6.52% and DBBL is 6.86%. From the above table, we can say that equity to assets performance of IBBL is better than DBBL because of equity to total assets ratio of IBBL in every year is greater than DBBL except 2011 & 2015.

➤ *Calculation of Z test*

Let us take the null hypothesis that there is no significant difference in equity to total assets ratio between the two banks during the study period, i.e.  $H_0: \mu_1 = \mu_2$

$$z = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s_1^2}{\mu_1} + \frac{s_2^2}{\mu_2}}} = \frac{7.40 - 6.96}{\sqrt{\frac{(0.63)^2}{5} + \frac{(0.21)^2}{5}}} = 1.40$$

Since our computed value of  $Z= 1.40$  is less than critical value of  $Z= 1.96$  (5% level) and  $Z=2.57$  (1% level), we accept the null hypothesis. Hence, equity to total assets ratio of two banks do not differ significant.

➤ *Operating Profit to Total Assets Ratio*

Operating profit to total Assets is a ratio between operating profit and total assets. Operating profit to total Assets indicates how much operating profit is generated per monetary unit of assets Operating profit to total Assets gives an idea as to how efficient management is at using its assets to generate earnings.

$$\text{Operating profit to Total Assets Ratio} = \frac{\text{Operating profit}}{\text{Total Assets}} \times 100$$

| Year | IBBL               |              |           | DBBL               |              |           |
|------|--------------------|--------------|-----------|--------------------|--------------|-----------|
|      | Operating Profit   | Total Assets | Ratio (%) | Operating Profit   | Total Assets | Ratio (%) |
| 2011 | 20123.41           | 389192.12    | 5.17      | 9090.48            | 123267.0     | 7.37      |
| 2012 | 24343.70           | 482536.32    | 5.05      | 11293.60           | 151859.6     | 7.43      |
| 2013 | 24346.30           | 547229.63    | 4.45      | 12697.85           | 185537.6     | 6.84      |
| 2014 | 27470.96           | 652422.04    | 4.21      | 13868.75           | 215993.5     | 6.42      |
| 2015 | 28065.05           | 725821.21    | 3.87      | 15608.79           | 244057.6     | 6.40      |
|      | Average            |              | 4.55      | Average            |              | 6.89      |
|      | Standard Deviation |              | 0.49      | Standard Deviation |              | 0.44      |

Table 5 Operating Profit to Total Assets Ratio (In Million Tk.)

Source: Annual Report on IBBL & DBBL 2011-2015

$$z = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s_1^2}{\mu_1} + \frac{s_2^2}{\mu_2}}} = \frac{6.89 - 4.55}{\sqrt{\frac{(0.44)^2}{5} + \frac{(0.49)^2}{5}}} = 7.93$$

➤ Interpretation

Table 5 shows that operating profit to total assets ratio in 2011 of IBBL is 5.17% and DBBL is 7.37%, in 2012 of IBBL is 5.05% and DBBL is 7.43%, in 2013 of IBBL is 4.45% and DBBL is 6.84%, in 2014 of IBBL is 4.21% and DBBL is 6.42%, in 2015 of IBBL is 3.87% and DBBL is 6.40%. From the above table, we can say that operating profit to total assets performance of DBBL is better than IBBL because of operating profit to total assets ratio of DBBL in every year is higher than IBBL.

➤ Calculation of Z test

Let us take the null hypothesis that there is no significant difference in operating profit to total assets ratio between the two banks during the study period, i. e.  $H_0: \mu_1 = \mu_2$

Since our computed value of  $Z= 7.93$  is greater than critical value of  $Z= 1.96$  (5% level) and  $Z=2.57$  (1% level), we reject the null hypothesis. Hence, operating profit to total assets ratio of two banks differ significant.

➤ Operating expense to Revenue Ratio

A bank's Operating expense to Revenue Ratio is essentially equivalent to a regular company's operating margin, in that it measures how much the bank pays on operating expenses, like marketing and salaries. By and large, lower is better.

$$\text{Operating Expense to Revenue Ratio} = \frac{\text{Operating Expense}}{\text{Revenue}} \times 100$$

| Year | IBBL               |          |           | DBBL               |          |           |
|------|--------------------|----------|-----------|--------------------|----------|-----------|
|      | Expense            | Revenue  | Ratio (%) | Expense            | Revenue  | Ratio (%) |
| 2011 | 7268.45            | 20000.08 | 36.34     | 6087.98            | 11293.60 | 53.91     |
| 2012 | 8867.10            | 24475.34 | 36.23     | 8114.28            | 12697.85 | 63.90     |
| 2013 | 11039.15           | 25143.16 | 43.91     | 4310.61            | 9090.48  | 47.42     |
| 2014 | 12074.13           | 27396.76 | 44.07     | 8544.40            | 13868.76 | 61.61     |
| 2015 | 13466.17           | 27814.03 | 48.42     | 9174.85            | 15608.79 | 58.78     |
|      | Average            |          | 41.79     | Average            |          | 57.12     |
|      | Standard Deviation |          | 4.78      | Standard Deviation |          | 5.89      |

Table 6. Operating Expense to Revenue Ratio (In Million Tk.)

Source: Annual Report on IBBL & DBBL 2011-2015

➤ Interpretation

Table 6 shows that efficiency ratio in 2011 of IBBL is 36.34% and DBBL is 53.91%, in 2012 of IBBL is 36.23% and DBBL is 63.90%, in 2013 of IBBL is 43.91% and DBBL is 47.42%, in 2014 of IBBL is 44.07% and DBBL is 61.61%, in 2015 of IBBL is 48.42% and DBBL is 58.75%. From the above table, we can say that efficiency performance of IBBL is better than DBBL because of efficiency ratio of IBBL in every year is lower than DBBL.

➤ Calculation of Z test

Let us take the null hypothesis that there is no significant difference in operating expense to revenue ratio between the two banks during the study period,  $H_0: \mu_1 = \mu_2$

$$z = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s_1^2}{\mu_1} + \frac{s_2^2}{\mu_2}}} = \frac{57.12 - 41.79}{\sqrt{\frac{(5.89)^2}{5} + \frac{(4.78)^2}{5}}} = 4.52$$

Since our computed value of  $Z = 4.52$  is greater than critical value of  $Z = 1.96$  (5% level) and  $Z = 2.57$  (1% level), we reject the null hypothesis. Hence, operating expense to revenue ratio of two banks differ significant.

➤ Operating expense to Total Assets Ratio

Operating expense to total assets ratio is measurement of financial efficiency and is determined based on information derived from a business or firm operation's financial statements specially using the financials that determine gross farm income. Operating expense to assets ratio is measured as a percentage, the lower the percentage the better the situation is for the business or farm.

$$\text{Operating Expense to Total Assets Ratio} = \frac{\text{Operating Expense}}{\text{Total Assets}} \times 100$$

| Year | IBBL               |             |           | DBBL               |             |           |
|------|--------------------|-------------|-----------|--------------------|-------------|-----------|
|      | Expense            | Total Asset | Ratio (%) | Expense            | Total Asset | Ratio (%) |
| 2011 | 7268.45            | 389192.12   | 1.86      | 6087.98            | 123267.0    | 4.94      |
| 2012 | 8867.10            | 482536.32   | 1.84      | 8114.28            | 151859.6    | 5.34      |
| 2013 | 11039.15           | 547229.63   | 2.02      | 4310.61            | 185537.6    | 2.32      |
| 2014 | 12074.13           | 652422.04   | 1.85      | 8544.40            | 215993.5    | 3.96      |
| 2015 | 13466.17           | 725821.21   | 1.86      | 9174.85            | 244057.6    | 3.76      |
|      | Average            |             | 1.89      | Average            |             | 4.06      |
|      | Standard Deviation |             | 0.07      | Standard Deviation |             | 1.05      |

Table 7. Operating Expense to Total Assets Ratio (In Million Tk.)

Source: Annual Report on IBBL & DBBL 2011-2015

➤ Calculation of Z test

Let us take the null hypothesis that there is no significant difference in operating, operating expense to total assets ratio between the two banks during the study period,  $H_0: \mu_1 = \mu_2$

$$z = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s_1^2}{\mu_1} + \frac{s_2^2}{\mu_2}}} = \frac{4.06 - 1.89}{\sqrt{\frac{(1.05)^2}{5} + \frac{(0.07)^2}{5}}} = 4.62$$

dividing gross income by equity capital. The higher the rate of gross income to equity capital the better for the organization.

$$\text{Return on Equity} = \frac{\text{Gross Income}}{\text{Equity Capital}} \times 100$$

Since our computed value of  $Z = 4.62$  is greater than critical value of  $Z = 1.96$  (5% level) and  $Z = 2.57$  (1% level), we reject the null hypothesis. Hence, operating expense to total assets ratio of two banks differ significant.

➤ Return on Equity

This is another important profitability measure. It reveals the degree of per unit equity of a bank. It is calculated by

| Year | IBBL               | DBBL      |
|------|--------------------|-----------|
|      | Ratio (%)          | Ratio (%) |
| 2011 | 17.42              | 27        |
| 2012 | 13.42              | 23.4      |
| 2013 | 11.36              | 17        |
| 2014 | 8.85               | 16.2      |
| 2015 | 6.28               | 19.3      |
|      | Average            | 11.41     |
|      | Standard Deviation | 3.82      |

Table 8. Return on Equity Ratio (In Million Tk.)

Source: Annual Report on IBBL & DBBL 2011-2015

➤ Interpretation

Table 8 shows that ROE ratio in 2011 of IBBL is 17.42% and DBBL is 27%, in 2012 of IBBL is 13.42% and DBBL is 23.4%, in 2013 of IBBL is 11.36% and DBBL is 17%, in 2014 of IBBL is 8.85% and DBBL is 16.2%, in 2015 of IBBL is 6.28% and DBBL is 19.3%. From the above table, we can say that ROE performance of DBBL is better than IBBL because of ROE ratio of IBBL in every year is lower than DBBL.

➤ Calculation of Z test

Let us take the null hypothesis that there is no significant difference in Return on Equity ratio between the two banks during the study period,  $H_0: \mu_1 = \mu_2$

$$z = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{S_1^2}{\mu_1} + \frac{S_2^2}{\mu_2}}} = \frac{20.58 - 11.41}{\sqrt{\frac{(4.07)^2}{5} + \frac{(3.82)^2}{5}}} = 3.67$$

Since our computed value of  $Z = 3.67$  is greater than critical value of  $Z = 1.96$  (5% level) and  $Z = 2.57$  (1% level), we reject the null hypothesis. Hence, return on equity ratio of two banks differ significant.

➤ Operating Profit Margin Ratio

Operating margin is a margin ratio used to measure a company's pricing strategy and operating efficiency. Operating margin is a measurement of what proportion of a company's revenue is left over after paying for variable costs of production such as wages, raw materials, etc. It can be calculated by dividing a company's operating income (also known as "operating profit") during a given period by its net revenue during the same period.

$$\text{Operating Profit Margin Ratio} = \frac{\text{Operating profit}}{\text{Net Revenue}} \times 100$$

| Year | IBBL               |          |           | DBBL               |         |           |
|------|--------------------|----------|-----------|--------------------|---------|-----------|
|      | Operating profit   | Revenue  | Ratio (%) | Operating Profit   | revenue | Ratio (%) |
| 2011 | 20000.08           | 32019.53 | 62.46     | 6433.9             | 21849.0 | 29.45     |
| 2012 | 25143.16           | 43672.22 | 57.57     | 5324.4             | 20741.8 | 25.67     |
| 2013 | 24147.36           | 48145.46 | 50.15     | 4583.6             | 20050.6 | 22.86     |
| 2014 | 27396.76           | 48152.28 | 56.89     | 5205.6             | 18213.1 | 28.58     |
| 2015 | 27814.03           | 49109.97 | 56.63     | 4779.9             | 14114.6 | 33.86     |
|      | Average            |          | 56.74     | Average            |         | 28.08     |
|      | Standard Deviation |          | 3.92      | Standard Deviation |         | 3.70      |

Table 9 Operating Profit Margin Ratio (In Million Tk.)

Source: Annual Report on IBBL & DBBL 2011-2015

➤ Interpretation

Table 9 shows that OPM ratio in 2011 of IBBL is 62.46% and DBBL is 29.45%, in 2012 of IBBL is 57.57% and DBBL is 25.67%, in 2013 of IBBL is 50.15% and DBBL is 22.86%, in 2014 of IBBL is 56.89% and DBBL is 28.58%, in 2015 of IBBL is 56.63% and DBBL is 33.86%. From the above table, we can say that operating profit performance of IBBL is better than DBBL because of operating profit margin ratio of IBBL in every year is greater than DBBL.

➤ Calculation of Z test

Let us take the null hypothesis that there is no significant difference in operating profit Margin ratio between the two banks during the study period,  $H_0: \mu_1 = \mu_2$

$$z = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{S_1^2}{\mu_1} + \frac{S_2^2}{\mu_2}}} = \frac{56.74 - 28.08}{\sqrt{\frac{(3.92)^2}{5} + \frac{(3.70)^2}{5}}} = 11.89$$

Since our computed value of  $Z = 11.89$  is greater than critical value of  $Z = 1.96$  (5% level) and  $Z = 2.57$  (1% level), we reject the null hypothesis. Hence, Operating profit Margin ratio of two banks differ significant.

IV. REGRESSION ANALYSIS

Here X denotes Numbers of Clients and Y denotes net Profit of the IBBL. Here Numbers of Clients is independent Variable and net Profit is dependent Variable.

Regression Equation of Y on x:  $Y - \bar{Y} = b_{yx}(X - \bar{X})$

$$Y - 4431.416 = 8553.166(X - 0.5010668)$$

$$Y = 145.708 + 8553.166X$$

| Year | X<br>Numbers of<br>Clients<br>(Million) | (X-X̄)   | X <sup>2</sup>                    | Y<br>Net<br>Profit<br>(Million<br>) | (Y-Ȳ)       | Y <sup>2</sup>                   | XY                 |
|------|---|----------|-----------------------------------|-------------------------------------|-------------|----------------------------------|--------------------|
| 2011 | 0.382319                                | -0.11875 | 0.146167818                       | 4841.45                             | 410.034     | 23439638.1                       | 1850.9783          |
| 2012 | 0.474766                                | -0.0263  | 0.225402755                       | 5338.91                             | -0.0263008  | 2850395.99                       | 2534.7329          |
| 2013 | 0.532235                                | 0.031168 | 0.283274095                       | 4949.58                             | 4948.078933 | 24488444.02                      | 2633.8075          |
| 2014 | 0.546194                                | 0.04127  | 0.298327886                       | 3999.06                             | 3998.558933 | 15992480.88                      | 2184.2626          |
| 2015 | 0.56982                                 | 0.068753 | 0.324694832                       | 3029.08                             | 3028.578933 | 9175325.646                      | 1726.0304          |
|      | ΣX = 2.505334                           |          | Σ X <sup>2</sup><br>= 1.277867386 | Σ Y<br>= 22157.08                   | 0           | ΣY <sup>2</sup><br>= 101599848.6 | ΣXY<br>= 10929.812 |

$$\bar{X} = \frac{\sum X}{N} = \frac{2.505334}{5} = 0.5010668$$

$$\bar{Y} = \frac{\sum Y}{N} = \frac{22157.08}{5} = 4431.416$$

$$b_{yx} = \frac{10929.812}{1.277867386} \times 0.5010668 = 8553.165852$$

**V. CONCLUSION**

Islamic Bank Bangladesh Limited and Dutch-Bangla Bank Limited are specialized private scheduled bank in the country are financing medium & small-scale industries. The banks basically offer term loans to industries especially to medium & small-scale enterprises. They also offer a full-fledged commercial banking service including collection of deposits and granting short term trade finance. From the tables, we can see that profitability and expenses both banks have shown mixed character i.e. sometimes the IBBL is good, sometimes the DBBL is good. But in finally, the analysis reveals that operating performance of IBBL is sound than DBBL and it can improve day by day. The result of various ratio analysis shows that operating performance of IBBL is holding a better position. So, no doubt IBBL is a growing profitable financial institute and its strengths are high.

**REFERENCES**

1. Choudhury, N.I. & Choudhury, S.A. "Performance of Private Commercial Bank vis-à-vis Banking Sector", Bank Parikrama, BIBM, Dhaka, March-June 1993, Vol. XVIII, Nos.1&2.
2. Nayan, Kamal, "performance Evaluation of commercial Banks: Development of An Evaluation Model", Ph.D. Thesis, Himachal Pradesh University, Shimla, 1982.
3. Ahmed O Babikir (1990) the contribution of Islamic Banking to economic development, the case study of Sudan Ph. D.,

thesis, University of Durhan, U.K. In abstract of the Journal of Islamic social sciences vol. 10, No. 1, 1993.

4. Hunter, W. C., Stephen G. Timme, S. G., & Yank, W. K., (1990). An Examination of Cost Subadditivity and Multiproduct Production in Large U.S. Banks. Journal of Money, Credit & Banking, Vol. 22, pp.504-525.
5. Bonin, J.P., Hasan, L. & Wachtel, P., (2005). Privatization matters: Bank efficiency in transition counties. Journal of Banking and Finance. Vol. 29, pp.2155.
6. Shah, S.G., Bank Profitability: The Real Issues, The Journal of the Indian Institute of Bankers, July-Sept. 1978, pp.130-44.
7. Chakraborty, J., Salam, F., & Rabbani, M.G., (2015). Financial Performance Analysis of Islamic Banks in Bangladesh: A Case Study on IBBL. International Journal of Economics, Finance and Management Science. Vol. 3, No. 2, pp.99-106.
8. Annual Reports of IBBL during 2011 to 2015.
9. Annual Reports of DBBL during 2011 to 2015.
10. Gupta, S.P. and Gupta, M.P., (2001), "Business Statistics", Sultan Chand & Sons Publications, New Delhi.
11. Kothari, C.R., (1990). "Research Methodology", New Age International (p) Limited.
12. Pandey, I.M., "Financial Management" Vikas Publishing House Private Ltd., Delhi-51, 7<sup>th</sup> Revised Edition.
13. [www.Islamicbankbd.com](http://www.Islamicbankbd.com)
14. [www.dutchbanglabank.com](http://www.dutchbanglabank.com)
15. Aggarwal R. & Yousef T. (2000). Islamic Banks and Investment Financing. Journal of Money, Credit and Banking, 32 (1), 93-120.