

**”Modeling profitability performance:
Case from two commercial Banks in Bangladesh”**



Daffodil
International
University

” Modeling profitability performance: Case from two commercial Banks in Bangladesh”

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Submission Date: January 16, 2020

Letter of Transmittal

January 16, 2020

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Subject: Letter of Transmittal.

Dear mam,

With the integrity, I would like to inform you that I have completed my internship report on “**Modeling profitability performance: Case from two commercial Banks in Bangladesh**” I have tried my best to focus on how PUBALI BANK LIMITED and AGRANI BANK LIMITED manages different activities mostly focuses on how they manage their profitability through different investments, including evaluation of the performance of PUBALI BANK LIMITED and AGRANI BANK LIMITED ,also tried to prepare this internship report for consistency with the optimal standard under your valuable direction.

I except my gratitude to your kind direction and I hope that you will consider all my mistakes generously

Rabeya bosri Tithi

Id: 162-11-5177

Program: BBA

Department of Business Administration

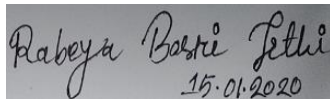
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Declaration

I am Rabeya Bosri Tithi, the student of Business Administration, ID: 162-11-5177, major in Finance from Daffodil International university would like to declare that presented report on “**Modeling profitability performance: Case from two commercial Banks in Bangladesh**” is uniquely prepared by me.

I also declare that this work does not violate any exciting copyright and this report is only prepared for my academic requirement.



Rabeya Bosri Tithi
15.01.2020

Rabeya Bosri Tithi

ID: 162-11-5177

Department of Business Administration

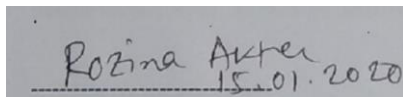
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Certificate of Approval:

I am pleased to confirm that the internship report on_“**Modeling profitability performance: Case from two commercial Banks in Bangladesh**” prepared by **Rabeya Bosri Tithi** bearing **ID: 162-11-5177** of BBA program, Department of Business Administration, Faculty Of Business and Entrepreneurship, Daffodil International University has been recommended for submission and presentation.

Rabeya Bosri Tithi bears a strong moral character and a very pleasing personality. It has indeed been a great pleasure working with her. I wish her all success in life.



Rozina akter

Assistant Professor

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Acknowledgment

At the very opening I would like to precise my sincere gratitude to Almighty Allah for giving me this kind and equanimity to complete this internship report, words actually will never be enough to direct how thankful I am, but never the less I shall try my level best to express my thankfulness the word some people.

It's a pleasure to carry my heartiest and greeting to my honorable supervisor Rozina akter, Assistant Professor, Department of Business Administration, Faculty of Business and Entrepreneurship

Daffodil International University.

I deeply escalate her collaboration, advice, and leadership in preparing this report. I would be approximately to express my heart in thanks to PUBALI BANK LIMITED. For allowing me to complete my internship. By extending heartiest thanks to those PUBALI BANK LIMITED's officials who gave their heartiest cooperation to complete my internship Report .I am thankful to of the people stated above for their collaboration in every step to prepare my report positively.

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Section: 01

1.1 Abstract:

This study is going to investigate the impact of overhead, capital expenditure, bank loan on return of asset and net interest margin through regression analysis and banks financial stability through ratio and regression analysis. Beside that also Bank's specific tools or drivers of payment that makes transactions efficient and flexible are going to be discuss in this study. The study is going to introduce different modern and unique media of payment that has rarely discussed in some studies. The payment system enrich with well-organized and legal, regulatory function that is going to be discussed.

The result of this discussion showed that surely variables such as non-performing bank loan, overhead has negative impact on the profit of bank. Where can be seen that how H1 and H3 will be significant and there have a relationship between them through regression analysis. It also try to represent the performance of the bank which is also a visible source of income and profit for a commercial bank, and the ratio analysis with interpretation and regression analysis with hypothesis of bank that will make the topic more easier to understand.

1.2 Introduction:

Bangladesh is a developing country with an improvised banking system. Particularly in terms of the service and customer care provided by the government run banks. In recent time, private banks are trying to imitate the banking structure of more developed countries and trying to simulate the banking structure of developed countries to enhance competition in the banking sector. According to primary assumption Liberalization of interest rate, credit allocation, strengthening prudential regulations, introduction of new indirect monetary policy, opening the financial sector to foreign financial institution and the promotion of the equity market are may have a great impact on the profitability of bank.

This study is going to use annual report of **PUBALI BANK LIMITED** for ratio analysis and also **AGRANI BANK LIMITED** for regression analysis, to determine banks Dependent and independent variables that are effect the profitability through different ratios analysis and regression analysis, many article that are previously studied by other researchers, as well as this study strongly focuses on the profit gain through different investment of commercial bank. This paper going to use some hypothesis that attend the financial reform that affect the profitability of commercial banks in BD.

1.3.Literature review: Numerous studies have been conducted and focusing on the profitability especially the variables that have affect the profit of commercial banks, also drivers or tools of commercial bank that affect the profit of a bank. To complete this article there needed to study some articles which are related to the topic, that are already been published in different countries.

So the first one was: Services and the long-term profitability in Taiwan's banks, (2006),authors: Yong-Chin Liu ^a, Jung-Hua Hung), this paper examines the relationship between service quality and long term profitability of Taiwan's bank, regression analysis with using panel data that reflect there has a strongly positive link between numbers of branches, long term profitability ,also disadvantages increased by overhead cost and suggesting that personnel cost may be a serious burden so that try to control the cost.

Determinants of profitability of domestic UK commercial bank,(2008),authors: Kyriaki Kosmidou,k.Tanna,s.and pasiouras) identifies the banks specific characteristics,macroeconomic condition and financial structure on UK owned commercial bank.The result of this study that there has some specific factors such as and expense management, bank size ,banks specific determinants are how much important for earn profit.

The second group includes the effect of bank and macroeconomic determinants of banking profitability,(2015),authors: Abu Hanifa Md. Noman^{1,2}, Mustafa Manir Chowdhury², Najneen Jahan Chowdhury², Mohammad Jonaed Kabir², & Sajeda Pervin³) they basically focus on ratio of bank such as ROA ,ROE that are used to determine the profitability of a bank by using mathematical and graphical presentation. They designed this study to investigate the macroeconomic and bank specific factor that may affect the profitability of bank, the result of this study shows numbers of variables that truly affect profitability of commercial bank in BD.

Drivers of bank profitability: Case of Latvia and Lithuania, (2016), authors: Jelena titko, viktorijia skvrciani, Daiva jurevicien). This paper represents numbers of drivers that are influence banks profitability and performance of banks profitability. This paper also study about multiple regression analysis.

The determinants of commercial banks and its profitability, Evidence from Tunisia, authors: samy Bennaceur, Mohamed goied) its specially focus on the variables impact and economic factors that influences profitability of a bank, besides that individual banks characteristics that have substantial country variation , turning to financial structure and its impact, shows the interest impact on banks profitability margin.

Beside all of these article, find out of managerial efficiency that affect profitability of bank was necessary to complete this study. The need of studying these article was to understand numbers of variables that are directly influence the income and profitability of an individual bank and also the bank industry in Bangladesh. These articles helps to arise some related question on this discussion and probable hypothesis, which are needed to continue and justify the topic logically.

1.4 Objective: The motive of this study is to explore the determinants of profitability of PUBALI BANK LIMITED and AGRANI BANK LIMITED. In addition other motive is to find out the significant relationship between variables, which is can be understand clearly through different analysis of this study. Also is there have any significant relationship between variables such as ROA and NIM find out through hypothesis. Finally what are the tools and performance of bank that helps bank to earn profit?

1.5 Methodology of the Study:

This study actually applied for estimating the impact of overhead, capital expenditure, bank loan on return of asset and net interest margin. The core objective includes find out the significant relationship between variables and their impact on profitability through different analysis and beside that also Bank’s specific tools or drivers of payment that makes transactions efficient and flexible are discussed in this study. Find out performance of commercial Bank which is visible source of income in bank. This report mostly based on number of related articles that already been studied and published in different countries and also the annual report of PUBALI BANK LIMITED and AGRANI BANK LIMITED. The data collection method was secondary data, which were available on the website. My main source of data was the banks website and Lanka Bangla finance.com.

Time frame: To prepare this report I took the data set of previous 5 years data of two commercial banks.

1.6 Research Method: According to numbers of articles, that have been followed to complete this paper, shows that only payment system of bank cannot be earn expected profit, there also have strong impact of variables and performance efficiency of bank that helps a bank to earn profit.so how variables and performance of commercial banks can affect profitability are discuss in below:

1.7 Research design and data collection procedure:

This study is a quantitative research. Data was collected from two different banks. Five years data (2014-2018) were collected from their annual report. Description of data is given below

variables	Description
Overhead	Overhead is any expense incurred to support the Business while not being directly related to specific product and service
Cap	Commonly known as CapEx are fund used by a company to acquire, upgrade and maintain physical asset such as property, Buildings an industrial planet and technology and equipment..

BLoan	A loan is money, property, or other material goods given to another party in exchange for future repayment of the loan value or principal amount, along with interest or finance charges.
NIM	Net interest margin is a ratio that measures how successful a firm is at investing its fund in comparison to its expense on the same investment.
ROA	Return on asset is an indicator of how profitable a company is relative to its total asset.

1.8 Overall data collection and analysis procedures are given below:

<p>Equity</p> <p>Total asset Stage 1: Data collection</p> <p>Total Operating Income</p> <p>Total operating expenses</p> <p>Loans and advances:</p> <p>Deposit and other accounts:</p> <p>Investment income</p> <p>Interest paid on deposits, borrowings etc. (Interest Expense)</p> <p>Total assets</p> <p>Interest and revenue income (Interest Income)</p>
<p>Stage 2: Calculation (Ratio)</p> <p>Overhead: $\text{Total operating expense} / \text{Total operating income}$</p> <p>Cap: $\text{Equity} / \text{Total asset}$</p> <p>Bank loan: $\text{Loan and advance} / \text{Deposit and other accounts}$</p> <p>NIM: $\text{Interest income} - \text{Interest expense} / \text{Total asset}$</p> <p>ROA: $\text{Net profit after tax} / \text{Total asset}$</p>

Stage 3: Hypothesis testing

H1: Overhead has negative impact on NIM

H2: CAP has positive impact on NIM

H3: Bank Loan has positive impact on NIM

H4: Overhead has negative impact on ROA

H5: CAP has positive impact on ROA

H6: Bank Loan has positive impact on ROA

$NIM = M * \text{Overhead} + \text{Standard error}$

$NIM = M * \text{CAP} + \text{Standard error}$

$NIM = M * \text{BLoan} + \text{Standard error}$

$ROA = M * \text{Overhead} + \text{Standard error}$

$ROA = M * \text{CAP} + \text{Standard error}$

$ROA = M * \text{BLoan} + \text{Standard error}$

Section: 02

Theoretical Discussion

2.1 Banks payment efficiency:

Payment efficiency are the means by which funds are transferred among financial institutions, Business and individuals and are considered to be the critical factor for proper functioning of country's financial system. With the mandate of Bangladesh bank order 1972, payment system department (PSD) endeavors for promoting new payments, clearing and settlement system to ease financial transaction because payment efficiency is one of the major factor that can affect a bank's profitability in positive or Negative manner. To maintain payment efficiency a Bank must have to follow some Tools of payment that are different from each other and each and every tools of payment has their own nature, all of them are discussed in below:

2.2 A Bank's payment efficiency can be divided into three broad categories:

1. Regulation, policy and licensing:

- a. Legal and regulatory function
- b. Mobile financial services
- c. Payment service provider (PSP) and payment system operator (PSO)

2. Operation:

- a. Bangladesh automated clearing house (BACH):
 - i. Bangladesh automated Cheque processing system (BACPS)
 - ii. Bangladesh Electronic funds transfer network(BEFTN)
- b. National payment switch Bangladesh (NPSB)
- c. Bangladesh real time gross settlement (BD-RTGS)

3. Payment system oversight.

Bangladesh automated Cheque processing system (BACPS): Since inception in October 2010, BACPS is the only state-of-the art Cheque clearing facility. It uses the cheque imaging and truncation (CIT) for electronic presentment and payment of paper instruments (Cheque , pay order(with 25 tk commission on 1000 Tk), dividend and refund warrant etc.)BACPS operates in batch.

Bangladesh Electronic funds transfer network (BEFTN): Since inception in October 2011, BEFTN was country first paperless electronic. It facilitates both debit and credit transaction, as a lead over cheque clearing system. This network system can handle credit transfer such as payroll, foreign and domestic remittances, social security payments, company dividend, bill payment,

corporate payments, government tax payment, social security payments and person to person payments. Most of the govt. expenses, salary, social benefits etc. are processed through BEFTN. This payment tool can earn a large portion of Banks profit because of its transaction flexibility.

National payment switch Bangladesh (NPSB): Operational since 2012, NPSB is meant for establishing interoperability among participating banks for their account and card based transaction, currently it caters interbank automated teller machine (ATM), point of sale (POS), internet Banking fund transfer (IBFT) transactions while the mobile financial services interoperability is under active consideration. ATM is the most popular and flexible payments tool for transaction which is 24/7 active, the maximum value of each transaction is 50,000 and the frequency is 5 times a day and not more than 2,00,000 tk per day. As this way of payment makes transactions easier it is also a source of income and profitability for a Bank.

Bangladesh real time gross settlement (BD-RTGS): To facilitate real time settlement of high value time critical payments BB introduced Bangladesh real time gross settlement BD-RTGS system during October 2015.it open a new dimension for the bank and for the corporate to settle their payments instantly, at the same time individual customers are also availing the service for setting their large value transactions.

a. Legal and regulatory function: Proper legal and regulatory frame work is important to ensure smooth functioning of the payment and settlement system. The legal basis for a bank to promote a safe secure payment system is lies in the Bangladesh bank order in 1972 .side by side payment system department issue regulation and publishes system rules, which among other defines roles and responsibilities of the participants of specific payment systems. Bangladesh bank has also initiated process to enact a national payment system act.

b. Mobile financial services(MFS): PBL has introduced efficient off-branch mobile financial service(MFS) during 2011 in Bangladesh as the country acquired omnipresent mobile phone network experienced, large number of mobile phone users and improve IT instruction. Bangladesh bank permit cash in cash out, person to person (P2P), person to business (P2B), person to Government (P2G), Government to person (G2P) payment services through MFS domestically. Cross border money supply is not allow under this service. Local disbursement of inward foreign remittance comes through this channel, this remittance is one of the great source of banks income and profit also.

c. Payment service provider (PSP) and payment system operator (PSO): According to Bangladesh payment and settlement system department (PSD) issues and payment system operator (PSO). It gives PSP license to the company who facilities payment process directly to the customer and setting their transaction through a schedule bank and financial institution, for example: E-wallet, mobile wallet etc., besides PSD gives PSO license to the company who operates a settlement system for payment activities between/among participants of which the principle participant must be schedule bank or financial institutions such as payment gateway, payment aggregator etc. Its reviews the market demand, risk management system, eligibility etc.

Payment system oversight: payment system oversight is a specialized form of supervision of existing and planned payment system which is one of the key all the central banks around the

globe. It promotes the objective of safety, efficiency and soundness of payment system by effecting monitoring and assessment of payment system and thereafter, suggesting policy changes. With the mandate of Bangladesh Bank order 1972 it has introduced number of digitalize Payment platform and service which became the vital part of the financial infrastructure of the country. Effective oversight means for financial stabilizing through income and profit and well managing payment system associated with risk.

2.3 Security and IT support for payment system: commercial Banks takes various initiatives to ensure the security and safety of payment system, those are discuss in below:

a. Data center or disaster recovery center's support on the efficient payment: PBL established their data center at ICT operation division, head office and disaster recovery center at Uttara, Dhaka. Banking data of our all branches are being stored in both their data center and disaster recovery center simultaneously to ensure business continuity even in disaster. Moreover, they recently added Extra data storage solution for enhancing storage capacity of their data center and disaster recovery center that assured uninterrupted data availability for end users and proliferated recently and become one of the best ones in Bangladesh.

b. How IT and automation ensure security of the efficient payment system in PBL: ICT operation secures qualitative and error free implementation and management of daily banking operation (payment and receiving).prompt support service against PIBS, BACH, BACPS, BEFTN, NPSB ,BD-RTGS network system etc. and assure all stakeholders with confidence that ICT processes are harmonized securely with the banks requirements and risk are effectively managed and mitigated within the banking operation that result in increased transaction volume, customer base as well as market share.

Pubali bank limited has been extending software system, network and hardware support unit at ICT operation division are extending quick support to the branches to solve any software/operational problems in banking software, besides ICT operation division is modifying, strengthening and enhancing our core banking solutions, PIBS (PUBALI INTEGRETED BBANKING SYSTEM) according to demand, which is being notified to branches through various circular.

One stop service has been implemented at all of its branches to ensure better and quick customer services. Hardware engineers also been posted in each of its regional offices for quick solution to the hardware problem of the branches under the region, besides passing power has been incorporated in PIBS to comply business requirements and to ensure higher security in banking operation.

c. IT support on foreign exchange or transaction: to encourage incoming foreign remittances all of its branches have been brought under the network of western union money transfer, MoneyGram, Transfats, Xpress money services, RIA, Pravu money transfer, placid express etc. in addition to receiving foreign TTs from different exchange houses abroad, besides they have developed an online payment module through which branches can pay remittances (cash, accounts payee to customers immediately.

3.10 Implementation of mobile banking: it has launched internet banking system using their in-house developed software and they are extending this services to the customers of its all online branches. Security of the transmitted data by encryption/decryption has been ensure through agreement with verisign secured site pro. Our software development division is working on development of software for mobile banking, SMS banking and Agent banking.

2.4 performance evaluation of a bank:

A bank's efficient payment system can help to improve the overall performance of the bank. A bank's payment system and bank performance are related with each other. A bank can gain profitability through its overall performance so an overview on performance of a bank is discussed in following: the performance of the bank is divided into three sections:

General Banking

Loans Advances

Foreign Exchange

a. General Banking:

General banking is the starting point of all banking operations. It is the department which provides day-to-day services to the customers. Every day it receives deposits from the customer and meets their demand for cash by honoring cheques. It opens new accounts, remits funds, issues bank drafts and pay orders etc. Since a bank is confined to the service to everyday, general banking is also known as retail banking.

According to World Bank, the general public understands the depositing and withdrawal of money and credit financing. But banks perform numerous types of services. To deal with the services the bank has to maintain registers, ledgers and documents. Some different jobs that are done in general banking are shown in the following picture:

Function of general Banking:

- 1) Check receiving and payment services
- 2) A/C opening
- 3) Opening and payment of FDR
- 4) Check clearing, collection, transfer
- 5) Issuing DD and pay order (Both General and nonresident transfer or NRT)
- 6) TT receive and Transfer (Both General and NRT)
- 7) Receive refund and warrants

b. Loan and advances:

Loan and advance department is basically one of the main sources of earning of the bank. In this section, a bank disburses credit through different accounts named CC (hypo), CC (pledge), Overdraft (SOD, TOD), housing building loan, project loan, personal credit, scheme etc. During disbursement of loans through these schemes, a bank must take some documents from the party such as DP note, Letter of declaration, valuation certificate and letter of lien which gives protection to the banker in any awkward situation.

c. Foreign exchange:

Foreign exchange department is the most profitable avenue of a branch. This department has two distinct sections. One is import section and another is export section. Import section is deals with letter of credit operation and export section deals with export and back to back L/C. Foreign exchange department also deals with the foreign remittance. At the time of opening L/C bank has to scrutinize various documents such as pro forma invoice, insurance cover note, genuineness of beneficiary.

Section: 03

Analysis, Findings and Recommendation

PART: 3.1

Ratio Analysis

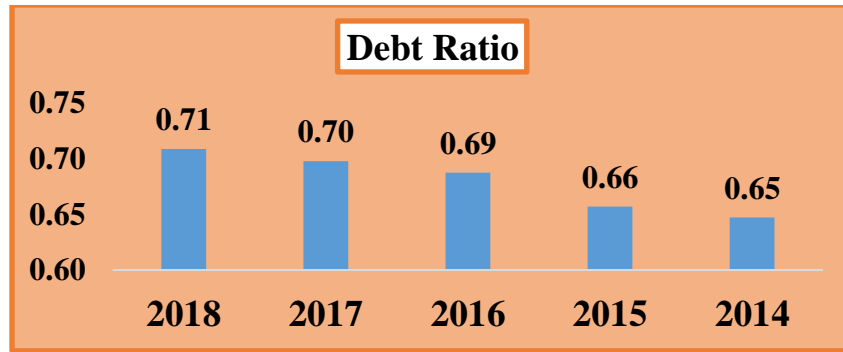
Ratio analysis of the Bank: A ratio analysis is a quantitative analysis of information contained in a Bank's financial statements. Ratio analysis is used to evaluate various aspects of a Bank's operating and financial performance such as its efficiency, liquidity, profitability and solvency. Below I am providing the ratio analysis of PUBALI BANK LIMITED and comparing from year 2014 to 2018.

Liquidity Ratio					
Particular	2018	2017	2016	2015	2014
Current Ratio	4.94	4.60	5.80	6.11	5.95
Cash Ratio	0.42	0.44	0.60	0.76	0.81

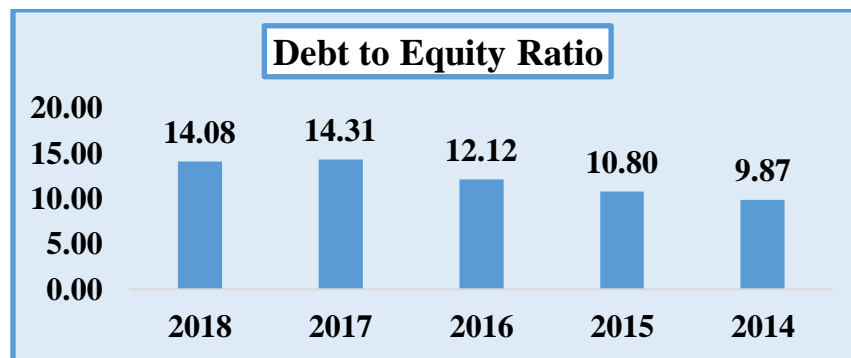
Current ratio: Current ratio refers to the ability of a firm to pay its current liabilities by its current assets. We can see the current ratio of the bank decrease from year 2014 to 2018 dramatically, but this is very good sign as it represents that the Bank able to utilize their current assets effectively as they have enough current asset to pay their current liabilities. They didn't keep their current assets idle.

Cash ratio: Cash ratio refers the ability of a firm to pay its current liabilities with highly liquidated asset.

Solvency Ratio					
Particular	2018	2017	2016	2015	2014
Debt Ratio	0.71	0.70	0.69	0.66	0.65
Debt to Equity Ratio	14.08	14.31	12.12	10.80	9.87
Asset-equity Ratio	19.86	20.39	17.48	15.53	13.92

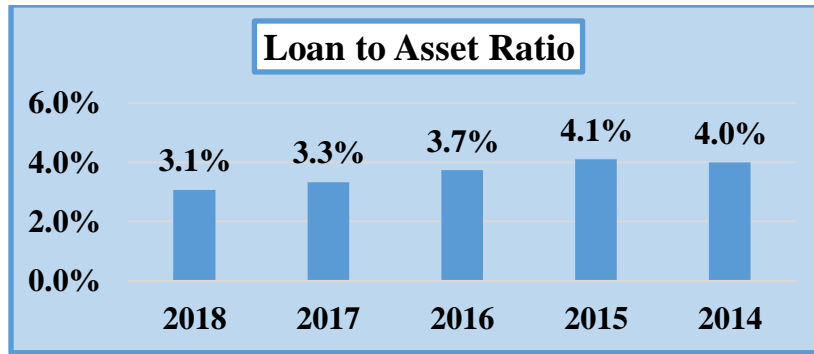


Debt Ratio: Debt ratio indicates the percentage of a Bank’s assets that are provided by the debt. We can see the debt ratio is increased from 2014 to 2018 of PBL, which means asset are purchased by using debt 71% in 2018.this is good because purchase of bank asset using only equity is not good practice, there should use debt more than equity.

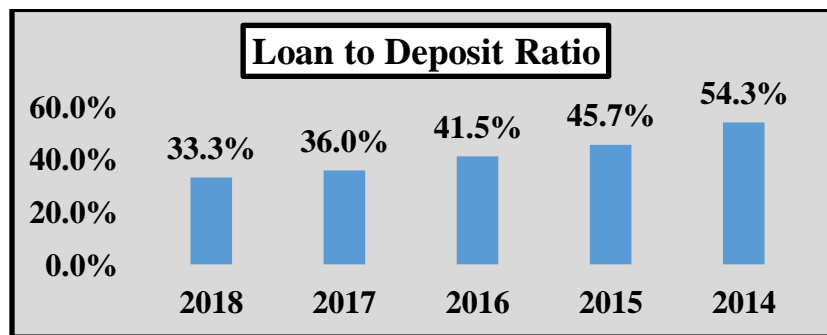


Debt to equity ratio: Debt to equity ratio shows the extent to which shareholder equity can fulfill company’s debt. We can see that debt to equity ratio gradually increase from 2014 to 2018,which is good for the bank.

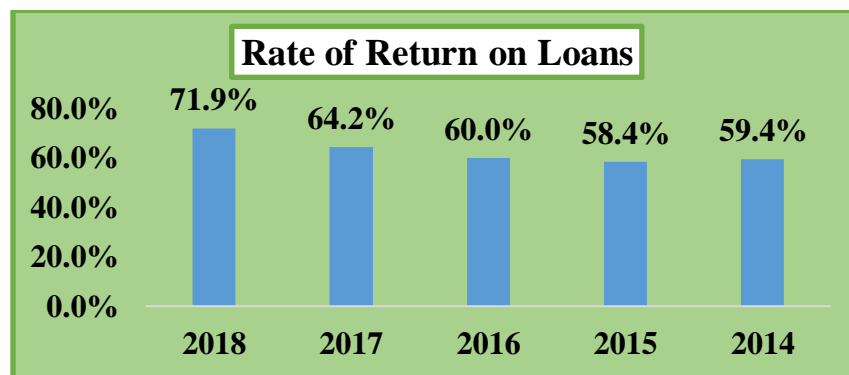
Others Ratio					
Particular	2018	2017	2016	2015	2014
Loan to Asset Ratio	3.06%	3.34%	3.73%	4.09%	4.00%
Loan to Deposit Ratio	33.29%	36.03%	41.48%	45.73%	54.32%
Rate of Return on Loans	71.9%	64.2%	60.0%	58.4%	59.4%
Net Asset Value Per Share	1.07	1.07	1.08	1.09	1.10



Loan to asset ratio: Loan to asset ratio is a financial ratio that usually use for Bank's (or credit union) to measure the relationship of the bank's loan portfolio to the total asset, the loan to asset ratio decrease from 2014 to 2018.



Loan to deposit ratio: A loan to deposit ratio is used to assess a banks liquidity. By comparing a bank's total loans to its total deposits for the same period. If the ratio is too high that means the banks may not have enough liquidity to cover any unforeseen fund requirements. Or if the ratio is too low that the bank may not be earning as much as it could be. The loan to deposit ratio of this bank decreases from 2014 to 2018 but as it is not too low we can't say that the bank may not be earn as much as it could be.

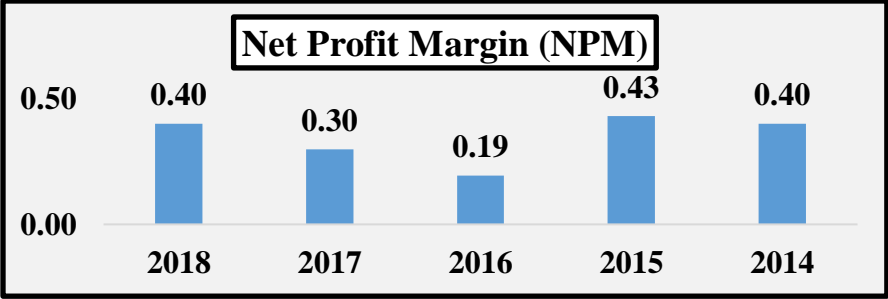


Rate of return on loans: A rate of return is a net gain or loss on an investment over a specified time period, expressed as a percentage of the investment's initial cost. if it is high its expressed higher return on investment and if it is low it represent lower income from investment. rate of return ratio increase from 2014 to 2018.

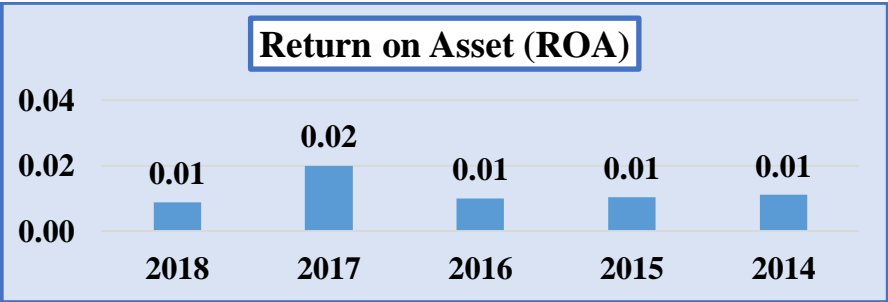
Credit Risk Ratio

Particular	2018	2017	2016	2015	2014
Equity to Asset Ratio	0.07	0.07	0.08	0.08	0.09
Equity to Net Loan Ratio	2.16	1.96	2.04	2.07	1.99

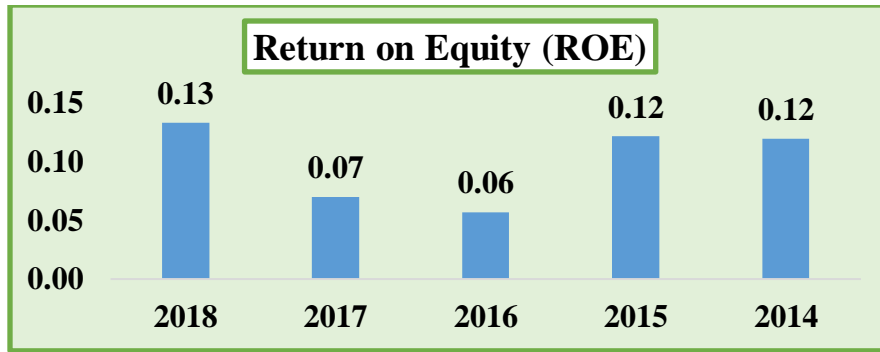
Profitability Ratio					
Particular	2018	2017	2016	2015	2014
Net Profit Margin (NPM)	0.40	0.30	0.19	0.43	0.40
Return on Asset (ROA)	0.01	0.02	0.00	0.01	0.01
Return on Equity (ROE)	0.13	0.07	0.06	0.12	0.12



Net profit margin: It shows the percentages of remaining after providing all expenses such as interest, Taxes and preferred stocks dividend to the shareholder for company’s total revenue. We can see that OPM is fluctuate between 2014 to 2018, to increase the NPM the bank should have to focus on their operation expenses.



Return on Asset: It is used to measure how efficiently a firm’s asset being used to generate profit. We can see that there has no dramatically changes in ROA of the bank from 2014 to 2018, so it can be said that the bank’s earnings from its asset is not bad.



Return on Equity: ROE measures the ability of firm to generate profit from its shareholders investment in the company. We can see that the ROE increase from 2014 to 2018 is 14.08% it is quite good for the bank that they are earning on their equity or share greater compare to

Part: 3.2

Regression analysis

Data view

A bank 2014	.4492439110	.920047.612327.002396.00401
A bank 2015	.5594038030	.920977.556399.001225.00116
A bank 2016	.7330881260	.941343.538146.067460.01118
A bank 2017	.6544779920	.939556.601713.060413.01003
A bank 2018	.6648561950	.947303.636333.070594.00131
P bank 2014	.4766026500	.066322.332889.003628.01000
P bank 2015	.4818287590	.065313.360313-.006931 .02000
P bank 2016	.5248058280	.076207.414828.061333.00000
P bank 2017	.4695008320	.084743.457335.054473.01000
P bank 2018	.4728749720	.092031.543166.050588.02000

Variable view

Bank	String	6	0	None	None	6	Left	Nominal	Input
Year	Numeric	4	0	None	None	4	Right	Scale	Input
Overhead	Numeric	11	10	None	None	11	Right	Scale	Input
Cap	Numeric	11	6	None	None	11	Right	Scale	Input
bloan	Numeric	11	6	None	None	11	Right	Scale	Input
nim	Numeric	12	6	None	None	12	Right	Scale	Input
roa	Numeric	7	5	None	None	7	Right	Scale	Input

3.3 Raw data collection and presentation:

Analysis: Part 2

Agrani Bank					
particulars	2014	2015	2016	2017	2018
overhead	0.449	0.559	0.733	0.654	0.665
cap	0.920	0.921	0.941	0.940	0.947
Bank loan		0.556	0.538	0.602	0.636
NIM	0.002	0.001	0.067	0.060	0.071
ROA	0.004	0.001	0.011	0.010	0.001

Pubali bank					
particulars	2014	2015	2016	2017	2018
overhead	0.477	0.482	0.525	0.470	0.473
cap	0.066	0.065	0.076	0.085	0.092
Bank loan	0.333	0.360	0.415	0.457	0.543
NIM	0.004	-0.007	0.061	0.054	0.051
ROA	0.010	0.020	0.000	0.010	0.020

Raw data were collected from the annual report.

[Raw data tables 1: Agrani Bank]

Agrani Bank					
particulars	2014	2015	2016	2017	2018
equity	455,304,21 6,680	520,675,60 2,007	586,990,62 4,647	633,187,53 8,735	747,567,15 8,581
total asset	494,870,82 9,871	565,351,45 7,288	623,567,46 8,862	673,922,11 8,848	789,153,27 2,786
Total Operating Income	19,499,584 ,998	19,915,605 ,797	20,796,434 ,432	23,529,860 ,129	24,830,351 ,440
Total operating expenses	8,760,069, 829	11,140,865 ,623	15,245,619 ,148	15,399,775 ,619	16,508,612 ,970
Loans and advances:	235,085,71 4,197	244,801,83 3,138	265,871,12 2,887	319,118,59 8,413	395,753,02 9,491

Deposit and other accounts:	383,921,950,651	439,975,477,419	494,050,051,943	530,349,741,838	621,927,230,672
Investment income	13,011,071,419	14,952,372,541	15,611,826,132	14,689,209,079	12,030,572,753
Interest paid on deposits, borrowings etc. (Interest Expense)	22,208,967,988	22,942,803,142	-20,619,597,687	-18,183,216,942	-23,394,032,321
Total assets	494,870,829,871	565,351,457,288	623,567,468,862	673,922,118,848	789,153,272,786
Interest and revenue income (Interest Income)	23,394,829,516	23,635,351,099	21,446,185,391	22,530,542,343	32,315,200,802

[raw data tables 2: Pubali Bank]

Pubali Bank					
particulars	2014	2015	2016	2017	2018
equity	27,206,869,382.00	24,047,105,374.00	24,432,858,993.00	24,188,669,884.00	22,859,377,335
total asset	410,225,693,149.00	368,184,354,644.00	320,612,119,600.00	285,435,915,544.00	248,386,497,730
Total Operating Income	17,717,666,145.00	16,674,314,796.00	14,175,121,363.00	14,120,635,934.00	14,000,635,934
Total operating expenses	8,444,286,641.00	8,034,164,408.00	7,439,186,302.00	6,629,650,326.00	6,620,550,326
Loans, cash credit and overdraft etc.	12,566,904,315.00	12,282,112,621.00	11,953,387,390.00	11,683,301,353.00	11,491,711,442
Current deposits and other accounts	37,751,065,237.00	34,087,307,863.00	28,815,286,575.00	25,546,461,730.00	21,156,902,329
Investment income	5,558,776,799.00	5,804,799,573.00	4,506,579,587.00	4,512,250,388.00	4,000,250,388
Interest paid on deposits, borrowings etc. (Interest Expense)	22,208,967,988	22,942,803,142	-20,619,597,687	-18,183,216,942	-23,394,032,321
Total assets	494,870,829,871	565,351,457,288	623,567,468,862	673,922,118,848	789,153,272,786
Interest and revenue income (Interest Income)	24,004,599,964.00	19,024,557,411.00	17,625,672,255.00	18,527,671,946.00	16527672,946

Sorted data for analysis

Bank	Year	Overhead	Cap	BLOAN	NIM	ROA
A bank	2014	0.449243911	0.920046584	0.612326838	0.002396305	0.00401
A bank	2015	0.559403803	0.920976846	0.556398812	0.001224987	0.00116
A bank	2016	0.733088126	0.941342604	0.538146129	0.067459874	0.01118
A bank	2017	0.654477992	0.939555953	0.601713498	0.060413152	0.01003
A bank	2018	0.664856195	0.947302868	0.636333336	0.070593679	0.00131
P bank	2014	0.47660265	0.06632171	0.332888734	0.003628486	0.01
P bank	2015	0.481828759	0.065312676	0.360313366	-0.006930637	0.02
P bank	2016	0.524805828	0.07620691	0.414827989	0.06133301	0
P bank	2017	0.469500832	0.084742909	0.457335402	0.054473489	0.01
P bank	2018	0.472874972	0.092031481	0.543166068	0.050588025	0.02

3.4 Hypothesis test result:

As per table X. H1 and H3 are significant means Overhead (Beta= 0.347, $p < 0.05$) and BLoan (beta= 0.325, $p < 0.05$) has positive impact on NIM. However, despite significant relationship, H2 is not supported as our hypothesis mentioned positive impact on CAP on NIM. This is an interesting result in this study.

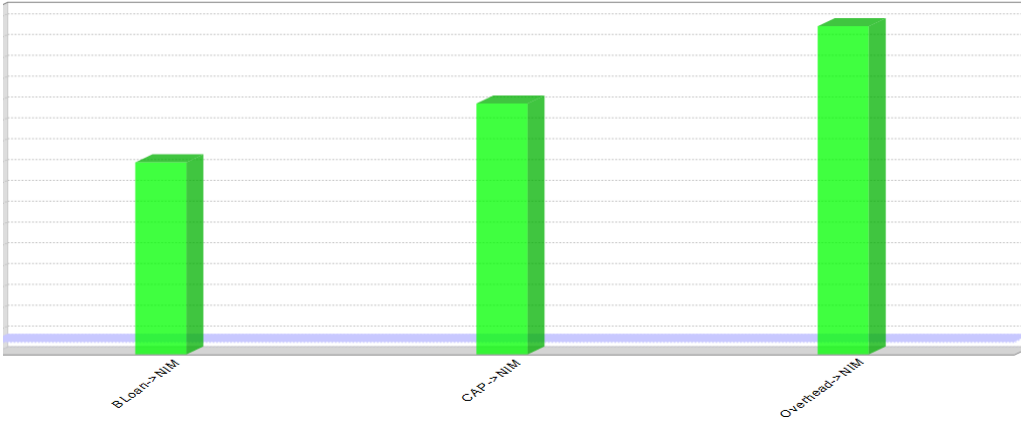
Hypothesis	Relationship	Beta value	T value	P value	Remark
H1	Overhead-> NIM	0.347	4.862	0.003	Supported
H2	CAP-> NIM	-0.106	-4.52	0.005	Supported
H3	BLOAN -> NIM	0.325	3.719	0.010	Supported
H4	Overhead -> ROA	0.14	0.402	0.702	Not supported
H5	CAP-> ROA	0.12	-1.001	0.356	Not supported
H6	BLOAN->ROA	0.14	0.326	0.756	Not Supported

In terms of the relationships with ROA, none of the hypothesis are significant. A major reason could be inconsistent values among those four variables.

Overhead, CAP and BLOAN explains 84% variance (R^2) on NIM. Among these three variables overhead has the highest impact on NIM where $f^2 = 3.94$. Overhead, CAP and BLOAN explains 24% variance (R^2) on ROA.

	Effect size
Overhead- > NIM	3.94
CAP->NIM	3.013
BLOAN -> NIM	2.305
Overhead- > ROA	No effect
CAP->ROA	No effect
BLOAN -> ROA	No effect

No effect means, effect size is less than 1.



After analyzing through regression this is clear that independent variables are negatively impact on profitability of commercial bank in BD, as if the overhead increase the profit will be decrease, if non performing Bloan increase the profit will be decrease, so we can see that there is a negative relationship between them. The result of this analysis that these variables have negative impact on ROA of the bank.

3.5 Findings: This study investigates the profitability performance: Case from two commercial Banks in Bangladesh, Basically trying to represent the effect of dependent end independent variables on the profitability of commercial bank in Bangladesh. The analysis showed that the variable such as Bank loan, overhead, are negatively affect the ROA of the bank. High net interest margin and profitability tend to be associated with banks that hold a relatively high amount of capital, and with large overheads. Bank nonperforming loans have a negative and significant impact on the capacity of commercial banks profit margin. In the analysis part there can be seen that debt ratio and debt to equity ratio get gradually increase from year 2014 to 2018 which is quite good. The bank loan ratio decrease within five years which is well for the bank as banks major part of asset is Loan but loan is less liquid asset than financial asset of bank. The loan to deposit ratio of the bank decrease significantly which not good as it means bank don't have enough liquid to manage an unforeseen event. The loan to investment ratio increase within five years that means return from the investment is increase, loan is an investment from the perspective of bank. Most important ratio for bank is NPM, net profit margin ratio which does not change as significantly as the bank cannot focus on their operation expense such as interest, taxes and dividend. Return on asset ratio do not change dramatically so it can be said banks earning from its asset is not bad. We can see ROE of the banks had ups and downs but finally increase in 2018 which means bank can earn more profit than past from equity. In addition also can be find some payment tools of bank such as BACH,BACPS,BEFTN,NPSB,BD-RTGS and their activities in Bank. Finally Banks performances that is visible source of income.

3.6 Recommendation: Based on the study and analysis there can be physically finding some problem, this paper makes the following recommendation to the policy makers and authorities of the organizations.

- While Provide loans maintain proper security.
- Managers should keep enough liquid to manage any unforeseen situation.
- Need to keep the consistency of ROA, ROE and other ratios that supporting the profit of bank.
- Cope up with numerous variables.
- Managers should efficiently improvise their management in accordance with demand.
- Managers should trying to increase capex and control overhead of bank.
- Manager should concentrate more about foreign exchange.

3.7 Conclusion:

The study investigates the profitability performance: Case from two commercial Banks in Bangladesh and also some Ratio, Banks dependent and independent variables and using hypothesis and regression analysis to justify the topic. The banks specific variables includes non-performing bank loan, overhead, capex, NIM etc. Bank's payment drivers or tools that make payment system more efficient such as BACH, BACPS, BEFTN, NPSB, BD-RTGS etc. Bank's ROA, ROE that have great impact on its profitability.

References:

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