

YANGON UNIVERSITY OF ECONOMICS

DEPARTMENT OF COMMERCE

MASTER OF BANKING AND FINANCE PROGRAMME

DETERMINANTS OF BANK PROFITABILITY

(A Case Study of AYA Bank)

MAY MAY THAN

(EMBF 5th Batch)

DECEMBER, 2019

DETERMINANTS OF BANK PROFITABILITY

(A Case Study of AYA Bank)

A thesis submitted as a partial fulfillment towards the requirements for the degree of “Executive Master of Banking and Finance” (EMBF)

Supervised by

Daw Khin Khin Saw

Lecturer

Department of Commerce

Yangon University of Economics

Submitted by

Ma May May Than

Roll No – 23

EMBF 5th Batch (2017-2019)

Yangon University of Economics

DECEMBER, 2019

CONTENTS

ABSTRACT		i
ACKNOWLEDGEMENT		ii
CONTENTS		iii
LIST OF TABLES		IV
LIST OF ACRONYMS		V
CHAPTER 1	INTRODUCTION	1
	1.1. Rational of the study	5
	1.2. Objectives of the study	6
	1.3. Scope and method of the study	6
	1.4. Organization of the study	6
CHAPTER 2	LITERATURE REVIEW	7
	2.1 Determinants of banks profitability	7
	2.2 Internal determinants of bank profitability	7
	2.3 Bank's Profitability	13
CHAPTER 3	PROFILE OF AYA BANK	15
	3.1 Background Information	15
	3.2 Mission and Brand Promise of AYA Bank	16
	3.3 Products and Services of AYA Bank	16
CHAPTER 4	ANALYSIS ON DETERMINANTS OF PROFITABILITY OF AYA BANK	18
	4.1 Research Design and Data Collection	18
	4.2 Profitability of AYA Bank	20
	4.3 Descriptive Statistics of Determinants	20
	4.4 Correlation Analysis the Determinants of Profitability	22
	4.5 Regression Analysis	25
CHAPTER 5	CONCLUSION	30
	5.1 Findings	30
	5.2 Suggestion	30
	5.3 Need for Further Study	31

ABSTRACT

The purpose of this study is to analyze the profitability of AYA Bank and to explore the determinants on AYA Bank's profitability. The study used descriptive method and simple linear regression research approach. The secondary data were collected by financial statement of AYA Bank website from the year 2011 to 2018. By using simple linear regressions models for the bank profitability measurements were Return on Asset (ROA), Return on Equity (ROE), and Net Interest Margin (NIM). In this study, finding from the correlation coefficient result, there were positive relation of liquidity with ROA, ROE and NIM, capital adequacy was negative relation with ROE. Which means that more liquid assets increase, the ability to raise profitability of bank and bank adequate more capital reserve, the profitability turn to be decrease. The regression analysis result show that ROE was effected by capital adequacy and NIM was effected by liquidity. This mean that while the bank holding large amount of capital, there will be decrease it's profitability and the bank's liquidity will lead to increase profitability. The bank should take no more than their capital reserve according to the regulatory requirement, because of the larger capital reserve lead to lower profitability. And then bank's management will monitor the liquidity for customer's obligation and quality of asset.

ACKNOWLEDGEMENT

This thesis reflects the contributions and support of many people. First and foremost, I would like to express my sincere thanks to my special gratitude to Prof. Dr. Tin Win, Rector of Yangon University of Economics, and Prof. Dr. Nilar Myint Htoo, Pro Rector of Yangon University of Economics, for giving to me the opportunity to write his kind permission to write this thesis.

Secondly, I am greatly thankful to thank Dr. Daw Soe Thu, EMBF Programme Director and Prof. (Head), Department of Commerce for her kindly guidance and encouragements to write this thesis.

I am also very grateful to my supervisor Daw Khin Khin Saw, Lecturer, Department of Commerce, Yangon University of Economics, for her valuable advice, guidance, assistance and support during the preparation and writing of this thesis.

I very much appreciate to my parents and friends their selfless assistance and encouragement. Nevertheless, any errors and shortcoming in this thesis are entirely my own weakness.

LIST OF ABBREVIATION

ASQ	Asset Quality
BSZ	Bank Size
CAP	Capital Adequacy
CBM	Central Bank of Myanmar
GDP	Gross Domestic Product
IFRS	International Financial Reporting Standard
LAS	Natural logarithm of total asset
LIQ	Liquidity
MGE	Managerial Efficiency
NIM	Net Interest Margin
NPL	Non Performing Loans
RGD	Real GDP growth rate
ROA	Return on Asset
ROE	Return on Equity

LISTS OF TABLES

Table No.	Description	Page
4.1	Description of the Variables	19
4.2	Description of the variables used in the descriptive statistics	21
4.3	Correlation matrix: ROA	23
4.4	Correlation matrix ROE	23
4.5	Correlation matrix NIM	24
4.6	Bank Size on Profitability	25
4.7	Asset Quality on Profitability	26
4.8	Liquidity on Profitability	27
4.9	Capital Adequacy on Profitability	28
4.10	Management Efficiency on Profitability	29

LISTS OF FIGURES

Figures No.	Description	Page
1	Functions of Bank	2
2	Profitability of AYA Bank	20

CHAPTER 1

INTRODUCTION

The history of banking began with the first prototype banks which were the merchants of the world, who gave grain loans to farmers and traders who carried goods between cities. This was around 2000 BC in Assyria, India and Sumeria. Later, in ancient Greece and during the Roman Empire, lenders based in temples gave loans, while accepting deposits and performing the change of money. Archaeology from this period in ancient China and India also shows evidence of money lending.

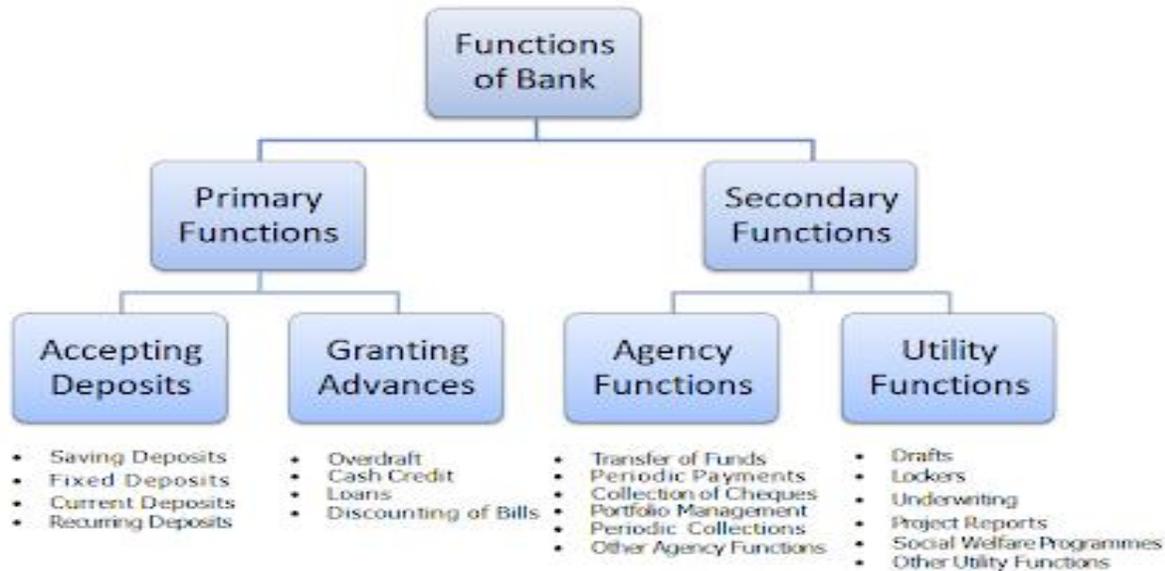
Development of banking spread from northern Italy throughout the Holy Roman Empire, and in the 15th and 16th century to northern Europe. This was followed by a number of important innovations that took place in Amsterdam during the Dutch Republic in the 17th century, and in London since the 18th century. During the 20th century, developments in telecommunications and computing caused major changes to banks' operations and let banks dramatically increase in size and geographic spread. The financial crisis of 2007–2008 caused many bank failures, including some of the world's largest banks, and provoked much debate about bank regulation.

https://en.wikipedia.org/wiki/History_of_banking

The primary **function** of a **bank** is to accept deposits for the purpose of lending. So **Banks** accept deposits for a specific interest rate and lend them at a rate which is slightly higher. They may lend at fixed interest rates or variable interest rates.

Figure (1) shows that the bank's primary and secondary functions.

Figure 1: Functions of Bank



<https://kalyan-city.blogspot.com/2011/04/functions-of-banks-important-banking.html>

Myanmar is in the early stages of financial reforms which the government has made an economic priority. At present Myanmar's financial system remains one of the least developed in the world. Myanmar remains a cash-oriented economy. A history of high inflation, bank runs, and insider lending has fueled public distrust of the banking and financial services industry. Even now, government owned banks still have more than U.S. \$7 billion of foreign reserves on deposit with overseas banks. It is estimated that less than 10% of Myanmar citizens have a bank account and that less 0.1% of the public are active in the credit market. A large informal banking system in Myanmar still exists. Remittance companies – licensed and unlicensed – remain popular as is the black market for foreign exchange.

Modern banking and financial services in Myanmar are in their infancy. The banking sector comprises the Central Bank of Myanmar (CBM) which was established pursuant to the Central Bank of Myanmar Law in 1990, 4 other state-owned banks, and 19 domestic private banks. Foreign banks in Myanmar are only permitted to open representative offices. To date 30 foreign banks have established a Myanmar presence in anticipation of future legal and market

liberalization. According to the CBM, foreign banks will be allowed enter Myanmar in three phases. In the first phase joint ventures with local banks will be permitted. In the second foreign banks will be permitted to establish locally incorporated 100% foreign owned subsidiaries. In the third and final stage they will permitted to open branches.

In April 2012 the CBM took the first step towards reforming the country's exchange rate system when it scrapped the country's fixed exchange rate in favour of a managed float. On 11 July 2013 the new Central Bank of Myanmar Law (CBM Law) was introduced. The law establishes the independence of the CBM and contains measures aimed at increasing transparency and accountability.

<https://www.charltonsmyanmar.com/myanmar-economy/banking-and-financial-services/>

The financial system plays a significant role in the development of a country's economy. It also contributes towards a large number of employments, and provides necessary funds to various economic agents to enjoy sustainable economic growth. Since the political reforms of 2011, the Banks and Financial Institutions Law of Myanmar have been passed by Parliament in 2016. The new law stipulates a minimum capital requirement of 20 billion Kyat, and also states that the lender needs to keep 5 percent of customer deposits as cash with the Central Bank.

Myanmar has four state owned banks, nine semi-governmental banks, 14 private enterprises, 13 foreign bank branches, and 49 representative offices of foreign banks. It is the first time in 50 years that foreign banks are allowed to support the country's economy with their extensive international experience and worldwide networks. Foreign banks are allowed to grant loans, to take deposits from foreign corporations and domestic banks in both international currency and Myanmar Kyat. According to the regulation from CBM, each foreign bank needs to provide 75 million USD as minimum investment capital. Therefore, the arrival of foreign banks has brought substantial benefits to both foreign investors and local businesses, such as faster transactions in foreign trade and the opportunity for local investors to expand their export market.

A profitable banking sector is better able to withstand negative shocks and contribute to the stability of the financial system. The profitability of a financial institution is affected by numerous factors. These factors include elements internal to each financial institution and

several important external forces shaping earnings performance. It is therefore important to understand the determinants of banking sector profitability.

ROA was used as dependent variable of bank performance and seven variables including liquidity, credit risk, cost to income ratio, size and concentration ratio, were used as independent variables. They concluded that neural network method outperforms the multiple linear regression method however it need clarification on the factor used and they noted that multiple linear regressions, not with standing its limitations, can be used as a simple tool to study the linear relationship between the dependent variable and independent variables. Neceur (2003) using a sample of ten Tunisian banks from 1980 to 2000 and a panel linear regression model, reported a strong positive impact of capitalization to ROA.

The determinant of bank profitability can be divided in to two main categories namely those are management controllable and those are beyond the control of management. Those factors which are management controllable, are classified as internal determinants and those beyond the control of management are referred to as external determinants. The Internal determinants are basically reflected on the differences in bank management policies and decisions in regards to sources and uses of fund management, capital and liquidity management and expenses management. The management - induced effects on profitability can be analyzed by examining the balance sheet and profit and loss account of the bank. The balance sheet items would illustrate bank management policies and decisions in relation to the sources, compositions and uses of funds. On the other hand, the management's efficiency in generating revenue and controlling cost would be reflected in the profit and loss account. The management controllable internal determinants considered in this study are similar to those consider in research bank profitability. The internal determinants include capital ratio, liquidity ratio, asset and liability, liability portfolio mix and overhead expenses.

The investigation in this study is the determinants of profitability of AYA Bank. The study will mainly explore the financial tools to measure and interpret a performance.

1.1 Rationale of the Study

The trend of commercial banking is changing rapidly. Competition is getting stiffer and, therefore, banks need to enhance their competitiveness and efficiency by improving

performance. Normally, the financial performance of commercial banks and other financial institutions has been measured using a combination of financial ratios analysis, benchmarking, measuring performance against budget or a mix of these methodologies (Avkiran, 1995).

These minimum capital adequacy requirements are based on the risk-weighted exposures of the banks (NRB, 2010). Credit risk is one of the factors that affect the health of an individual bank while asset quality analysis involves taking account of the likelihood of borrowers paying back loans. The extent of the credit risk depends on the quality of assets held by an individual bank. The quality of assets held by a bank depends on exposure to specific risks, trends in non-performing loans, and the health and profitability of bank borrowers (Baral, 2005). Poor asset quality and low levels of liquidity are the two major causes of bank failures. Poor asset quality led to many bank failures in Kenya in the early 1980s (Olweny and Shipo, 2011). The maximum NPL allows for a healthy bank is 5%. Management quality plays a big role in determining the future of the bank. The management has an overview of a bank's operations, manages the quality of loans and has to ensure that the bank is profitable. Ability to support the present and future operations of a bank depends on the quality of its earnings and profitability profile (Share et al., 2011). Liquidity management is one of the most important functions of a bank. If funds tapped are not properly utilized, the institution will suffer loss (Sangmi and Nazir, 2010).

Today Myanmar banking industry, there are more competitive in each private banks and the correspondent banks from abroad were established. Therefore the bank's operating expenses were extremely large for their innovative products and infrastructures. While the bank size was bigger, the return will be lower. For sustainable growth of bank, the expenses and return will be balance. Thus the profitability is critical measurement for the bank's performance.

1.2 Objective of the Study

The objective of this study is how bank profitability are relation with their determinants within a time period. The specific objectives are:

- (1) To analyze the profitability of AYA Bank.
- (2) To explore the determinants on AYA Bank's profitability.

1.3 Scope and Method of the Study

The study focuses on management controllable internal determinants of profitability of AYA Bank. The period of start from 2011 to 2018 financial year of AYA Bank's secondary data was applied in this study. The data were taken from the AYA Bank website, various research papers and relevant internet website. The profitability estimation strategy is to apply the descriptive statistics method and simple linear regression analysis was used to analyze the profitability of AYA Bank and to explore the determinants of AYA Bank's profitability.

In this study, the profitability were measured with ROA, ROE and NIM. The determinant of profitability were capital adequacy, asset quality, management efficiency, liquidity and bank size.

1.4 Organization of the Study

A study on internal determinants of profitability of AYA Bank thesis is composed by five chapters. Chapter I Introduction includes rationale of the study, objectives of the study, scope and limitation of the study, methods of study and organization of the study. Chapter II involves literature review of determinants of bank profitability and theoretical theories, the concept of financial ratio and profitability. Chapter III represent profile of Ayeyarwady Bank. Chapter IV describes the determinants of profitability of AYA Bank and last Chapter V covers conclusion from the study are discussed and suggestions for internal determinants on AYA Bank's profitability.

CHAPTER 2

LITERATURE REVIEW

In this chapter presents the concept of profitability and influencing of determinants. The theory applied for the research and discover how each determinants affect the profitability by viewing past literatures related to the topic are also presented.

2.1. Determinants of Bank's Profitability

There are several determinants and banks' profitability, Different empirical evidences suggested that profitability of financial institutions specifically banks are affected by internal and external factors. Bank profitability is usually measured by the return on average assets and is expressed as a function of internal and external determinants. The internal determinants include bank-specific variables. The external variables reflect environmental variables that are expect to affect the profitability of banks. Internal factors such as capital adequacy ratio, asset size, asset quality, net-worth, liquidity, earnings quality, loan performance, business risk, management quality, people, technology and operating environment are major determinant that are used to analyzed the determinants of bank profitability. An external macroeconomic and industry-specific factor includes Effective tax rate, Real GDP growth, inflation, regulation and Bank concentration.

2.2 Internal Determinants of Bank Profitability

The theoretical and empirical literatures of major internal determinants of profitability of bank; capital adequacy, asset quality, and managerial efficiency, earning quality, liquidity, technology, human capital and loan performance are presented in this section.

Capital Adequacy

Capital adequacy refers to the sufficiency of the amount of equity to absorb any shocks that the bank may experience (Kosmidou, 2009). The capital structure of banks is highly regulated. This is because capital plays a crucial role in reducing the number of bank failures and losses to depositors when a bank fails as highly leveraged firms are likely to take excessive risk in order to maximize shareholder value at the expense of finance providers (Kamau, 2009).

Although there is general agreement that statutory capital requirements are necessary to reduce moral hazard, the debate is on how much capital is enough. Regulators would like to have higher minimum requirements to reduce cases of bank failures, whilst bankers in contrast argue that it is expensive and difficult to obtain additional equity and higher requirements restrict their competitiveness (Koch, 1995). Beckmann (2007) argue that high capital lead leads to low profits since banks with a high capital ratio are risk-averse, they ignore potential [risky] investment opportunities and, as a result, investors demand a lower return on their capital in exchange for lower risk.

However Gavila et al (2009) argues that, although capital is expensive in terms of expected return, highly capitalized banks face lower cost of bankruptcy, lower need for external funding especially in emerging economies where external borrowing is difficult. Thus well capitalized banks should be profitable than lowly capitalized banks.

Neceur (2003) using a sample of 10 Tunisian banks from 1980 to 2000 and a panel linear regression model, reported a strong positive impact of capitalization to ROA. Sufian and Chong (2008) also reported the same results after examining the impact of capital to the performance of banks in Philippines from 1990 to 2005.

Further considering the regulatory requirement on the minimum capital required to be maintained by banks, capital adequacy also indicates the ability of bank to undertake additional business. Indranarain (2009), Imad et al. (2011) and Berger (1995) stated that banks with high capital ratio tend to earn more profit through translating the safety advantage into profit. The size of capital provides financial flexibility for bank and financial institution. It identifies which financing options are available for the entity. The size of capital also influences the profitability of the bank in terms of return on assets, return on capital employed and return on shareholders' equity. A bank should have adequate capital to support its risk assets in accordance with the risk-weighted capital ratio framework. It has become recognizes that capital adequacy more appropriately relates to asset structure than to the volume of liabilities.

$$\text{Capital Adequacy} = \frac{\text{GrossCapital}}{\text{TotalAsset}}$$

Asset quality

Credit risk is one of the factors that affect the health of an individual bank. The extent of the credit risk depends on the quality of assets held by an individual bank. The quality of assets held by a bank depends on exposure to specific risks, trends in non-performing loans, and the health and profitability of bank borrowers (Baral, 2005). Aburime (2008) asserts that the profitability of a bank depends on its ability to foresee, avoid and monitor risks, possibly to cover losses brought about by risks arisen. Hence, in making decisions on the allocation of resources to asset deals, a bank must take into account the level of risk to the assets.

The asset quality is measure an ability to manage credit risk for a bank or financial institution. The asset quality reflects the composition and productivity of the assets. Thus, asset quality has a direct impact on the profitability of a bank. Many empirical evidences stated that asset quality has direct impact on the profitability of banks. The quality of assets particularly, loan assets and investments, would depend largely on the risk management system of the bank. The value of loan assets would depend on the realizable value of the collateral while investment assets would depend on the market value.

Poor asset quality and low levels of liquidity are the two major causes of bank failures. Poor asset quality led to many bank failures. According to Waweru and Kalani (2009) many of the financial institutions that collapse in 1986 failed due to non-performing loans (NPLs) and that most of the larger bankfailures, involved extensive insider lending, often to politicians. The CBK measures asset quality by the ratio of net non-performing loans to gross loans.

However Koch (1995) argues that a good measure of credit risk or asset quality is the ratio of loan loss reserve to gross loans because it captures the expectation of management with regard to the performance of loans. Hempel et al (1994) observed that banks with high loan growth often assume more risk as credit analysis and review procedures are less rigorous, however returns are high in such loans indicating a risk and return trade-off.

Kosmidou (2008) applied a linear regression model on Greece 23 commercial banks data for 1990 to 2002, using ROA and the ratio of loan loss reserve to gross loans to proxy profitability and asset quality respectively. The results showed a negative significant impact of asset quality to bank profitability. This was in line with the theory that increased exposure to

credit risk is normally associated with decreased firm profitability. Indicating that banks would improve profitability by improving screening and monitoring of credit risk.

Abebaw and Depaack (2011) used ratio of Nonperforming assets (loans) to total loans and advances (NPL) as an indicator of banks' asset quality. They stated that the amount of nonperforming assets has a direct implication in the profitability of the bank, that is if the proportion of the nonperforming assets in relation to total loans increase the profitability will be decreased and vice versa. Bank loans are expected to be the main source of income and are expected to have a positive impact on bank profitability.

$$\text{Asset Quality} = \frac{\text{TotalNPLs}}{\text{TotalLoan \& Advance}}$$

Management Efficiency

The quality of the management will determine the success of a bank or financial institution. The ratios of operating expenses to operating income and operating expenses to total assets are commonly used to measure Managerial efficiency of the banks. Hence a positive relationship is expected between efficiency and profitability of banks. The analysis of the quality of a management is based on the experience of the management and their track record in terms of their vision and competence in running the bank. Although, the relationship between expenditure and profits appears straightforward implying that higher expenses mean lower profits and the opposite, this may not always be the case. The reason is that higher amounts of expenses may be associated with higher volume of banking activities and therefore higher revenues (Tobias and Themba 2011).

$$\text{Management Quality} = \frac{\text{OperatingE xpenses}}{\text{OperatingI ncome}}$$

Liquidity

Another important decision that the managers of commercial banks take refers to the liquidity management and specifically to the measurement of their needs related to the process of deposits and loans. The importance of liquidity goes beyond the individual bank as a liquidity shortfall at an individual bank can have systemic repercussions (CBK, 2009). It is argued that when banks hold high liquidity, they do so at the opportunity cost of some investment, which could generate high returns (Kamau, 2009). The trade-offs that generally exist between return and liquidity risk are demonstrated by observing that a shift from short term securities to long term securities or loans raises a bank's return but also increases its liquidity risks and the inverse is true. Thus a high liquidity ratio indicates a less risky and less profitable bank (Hempel et al, 1994). Thus management is faced with the dilemma of liquidity and profitability.

Myers and Rajan (1998) emphasized the adverse effect of increased liquidity for financial Institutions stating that, "although more liquid assets increase the ability to raise cash on short-notice, they also reduce management's ability to commit credibly to an investment strategy that protects investors" which, finally, can result in reduction of the "firm's capacity to raise external finance" in some cases (Uzhegova, 2010).

A bank or financial institution has to be liquid to meet payment obligations to depositors and creditors. Liquidity analysis considers the bank's ability to meet its obligations and is very critical for a bank to remain a going concern. The absence of liquidity can lead to failure of a bank. It also considers the proportion of liquid assets to total assets along with their deposit renewal rate (brickwork rating 2010). The liquidity condition of the commercial banks was also reliable in all cases, though some measures should be made by the individual banks respective to their matter as per (Habtmu 2004). A bank must always be liquid to meet depositors' and creditors' demand to maintain public confidence. There needs to be an effective asset and liability management system to minimize maturity mismatches between assets and liabilities and to optimize returns. As liquidity has inverse relationship with profitability, and banks must strike a balance between liquidity and profitability. According to Molyneux and Thornton (1992), and Guru et al. (1999), there is a negative and significant relationship between the level of liquidity and profitability.

$$\text{Liquidity} = \frac{\text{Total Loan}}{\text{Total Deposit}}$$

Bank size

Total assets of the bank measure bank size. The size of the bank is included in this study, as an independent variable, which account for size related economies and diseconomies of scale. In most of the finance literature, the total assets of the banks are used as a proxy for bank size. However, since total assets deflated the dependent variable in the model (Return on Asset) it would be appropriate to take natural logarithm before including it in the model to be consistent with other ratios. Size is used to capture the fact that larger banks are better placed than smaller banks in harnessing economies of scale in transactions to the plain effect that they will tend to enjoy a higher level of profits. Consequently, a positive relationship is expected between size and profit (Indranarain 2009). One of the most important questions in the literature is how determine an optimal bank size in order to maximize bank profitability. According to Andreas and Gabrielle (2009), larger banks are likely to have a higher degree of product and loan diversification than smaller banks. In addition to the higher diversification potential, economies of scale can also arise from a larger size. Diversification reduces risks and economies of scale lead to increased operational efficiency. The growing banking size is positively related to bank profitability. However, they also argued that banks that have become extremely large exhibit a negative relationship between size and profitability due to agency costs, bureaucratic processes and other reasons related to a large firm size.

Bank Size = Natural logarithm of Total Asset of the bank

2.3 Bank's Profitability

Bank profitability was measured by the ratio of the Return on Average Assets (ROA), Return on Average Equity (ROE), and Net Interest Margin (NIM).

Return on Asset (ROA)

As Golin (2001) points out, the ROA has emerged as key ratio for the evaluation of bank profitability and has become the most common measure of bank profitability. The following authors also used ROA as a measure of bank profitability (Yuqi Li (2006), Abebaw and Depaack (2011), Berger (1995), Indranarain Ramlall (2009), Imad *et al.* (2011), Tobias and Themba (2011), Belayneh (2011), and Athanasoglou *et al.* (2008)). The ROA reflects the ability of a bank's management to generate profits from the bank's assets. It indicates how effectively the bank's assets are managed to generate revenues, although it might be biased due to off-balance-sheet activities.

$$\text{ROA} = \frac{\text{NetProfitAfterTax}}{\text{TotalAsset}}$$

Return on Equity (ROE)

Although ROA provides useful information about bank profitability, we have already seen that it is not what the bank's owners (equity holders) care about most. They are more concerned about how much the bank is earning on their equity investment, an amount that is measured by the return on equity (ROE), the net income per birr of equity capital. ROE were used by some of the following authors Indranarain Ramlall (2009), Bourke (1989), Molyneux and Thornton (1992), Belayneh (2011), Andreas and Gabrielle (2009), Athanasoglou *et al.* (2008), and Guru *et al.* (1999).

$$\text{ROE} = \frac{\text{NetProfitAfterTax}}{\text{TotalEquity}}$$

Net Interest Margin (NIM)

Another commonly watched measure of bank profitability is called the Net Interest Margin (NIM), the difference between interest income and interest expenses as a percentage of total loans and advances which includes deposits with foreign banks, treasury bills and other investments. One of a bank's primary intermediation functions is to issue liabilities and use the proceeds to purchase income-earning assets. If a bank manager has done a good job of asset and liability management such that the bank earns substantial income on its assets and has low costs on its liabilities, profits will be high.

How well a bank manages its assets and liabilities, which is affected by the spread between the interest earned on the bank's assets and interest costs on its liabilities. This spread is exactly what the net interest margin measures. NIM was used as a measure of bank profitability by James Nguyen (2006), Ho and Saunders (1981), Angbazo (1997), Levine (2004), and Claeys *et al.* (2004).

$$\text{NIM} = \frac{\text{NetInterestIncome}}{\text{TotalLoans andAdvance}}$$

CHAPTER 3

PROFILE OF AYEYARWADY BANK

This chapter include the background information, head office and numbers of branches, mission, vision and brand promise, organization structure and number of employees, products and services, own conceptual framework of AYA and about the saving behavior in AYA bank.

3.1 Background Information

Ayeyarwady bank in its management and activities subscribes to global standards of governance, risk and compliance. The bank has engaged talent with both domestic and international exposures and has invested heavily in training and technology as a way for the bank and the community it serves to ensure sustainable long-term growth. The bank has grown steadily since its establishment with the number of branches growing slowly to 258 branches and customer deposits grew healthily to (1.4 m customer), Kyats 4.7 trillion customer deposits and (150 billion) shareholder equity as at the end of September 2017. Top 100 depositors account for about 6 percent of total deposits, reflecting the confidence of the general public in the bank. As a member of the UN Global Compact (UNGC), AYA Bank is dedicated in its management and operations to adopt global standards of corporate governance and comply with best practices. As a result, since 2014-15, AYA Bank is the only bank in Myanmar to comply with IFRS and the only bank to be audited by a large-four international company under International Standards of Auditing (ISA). The bank has also recruited and retained talented employees with domestic and international exposure and has invested heavily in learning and development as a means of ensuring sustainable long-term growth.

For the years ahead, the bank will continue to extend its branch network throughout Myanmar while concurrently investing in state-of-the-art Core Banking, Digital Banking and Fintech platforms. AYA Bank strives to provide a seamless omni-channel platform that provides creative products and services across all consumer segments. AYA Bank will also continue to focus on deepening relationships with customers, providing best-in-class customer service, and leveraging technology as the enabler to rapidly expand the customer base. As a measure to ensure balance and sustain growth, the bank also aims to further improve its governance, risk and enforcement structure.

3.2 Mission and Brand Promise of AYA Bank

Mission of AYA Bank is to be recognized as the leading bank in Myanmar through pursuit of excellence and long-term sustainable growth for the bank and its stakeholders.

AYA bank “your trusted partner” set the corporate goals for their customer to achieve a high level of customer satisfaction by: providing honest, efficient and courteous service, offering a full range of products and services, providing easy accessibility in terms of reach and delivery channels, employing technology as the enabler for all customer service endeavors.

The bank has also won numerous awards, such as the best private bank, best banking group, and most sustainable bank. Aside from focusing on the growth, AYA Bank also wants to be greener and save the earth by reducing their use of paper and by using fuel efficient vehicles that release less pollutants. AYA bank is a fast growing bank in need of talented individuals to foster that growth.

3.3 Products and Services of AYA Bank

AYA bank is the bank of choice for anyone looking at reasonable costs for quick, secure, honest banking relationships. AYA bank offers the full range of products and services for retail and commercial banking and is in accordance with domestic customs and international standards in its governance and operations. For your long term banking needs, who is looking for fast, reliable, honest banking relationships at reasonable cost. Extending beyond the domestic banking services, AYA Bank also provide International Banking Services to support Clients to implement their projects and plans. . AYA bank contributed its correspondent bank in Sweden, Germany, China, Korea, India, Thailand, Vietnam, Malaysia, Singapore, Indonesia, and Japan.

Products and services of AYA Bank are deposit, loan and advances, remittances, cash management, card payment, e banking services, trade services, AYA royal banking and other services. Among them, deposit products have eight types of deposit. They are AYA current account, AYA foreign currency account, AYA seafarer saving account, AYA saving account, AYA interest maximizer account, AYA loyal account, AYA fixed deposit, AYA premium saving deposit.

AYA Bank support various type of Loan and advance for improving business plan, such as Project Loan, Demand Loan, Overdraft and SME JICA two step loan to corporate, small and medium business. For individual person, AYA Bank also create hire-purchase of mortgage loan, auto loan and education loan to business owner, company staff who can show their financial evidences.

Automatic Teller Machine (ATM) and i-banking and mobile banking are available 24/7. In less than 7 years, AYA Bank has opened 216 branches and 541 ATMs countrywide as of April 2017. For the convenience and comfort of all customers, all of the buildings are cleaned and well maintained regularly. It also has parking availability, cleanliness of surrounding areas, bright and clearly visible signboards and ATMs in bright and clean areas. Staffs must keep their workplace clean and tidy at all times. There are many facilities which will make the customers comfortable and convenient such as air con. In addition, security guards, alarms, and CCTV cameras on every entrances and exits of the bank in order to feel safe to the customers. There will also be sufficient seats for the customers to wait, provision of water and refreshment while waiting.

CHAPTER 4

ANALYSIS ON DETERMINANTS OF PROFITABILITY IN AYA BANK

This chapter deals with the results of study which include descriptive statistics of variables, correlation results for dependent and independent variables and regression analysis for three profitability measures; return on asset, return on equity, and net interest margin and discussion of results.

4.1 Research Design and Data Collection

The main objective of this study was to explore the determinants of AYA Bank's profitability in and this study adopted an explanatory approach by using descriptive statistic research design to realize a stated objective. The study was employed quantitative research approach by using secondary data was collected from website of the AYA Bank's annual reports, financial statements covering a period of 8 years (2011 – 2018) and other published documents.

The collected secondary data from website of the AYA Bank's annual reports, financial statements covering a period of 8 years (2011 – 2018) was analyzed by using descriptive statistics and correlations and regression analysis. Mean and standard deviation values are used to analyze the general trends of the data from 2011 to 2018 for the variables which included in the study. A correlation matrix was used to examine the relationship between the dependent variable and independent variables to investigate the profitability. In this paper internal variables are used to investigate the determinants of AYA Bank's profitability. Regression analysis used by simple leaner regression, was examined the effect of determinants on profitability.

Table 4.1 Description of the Variables

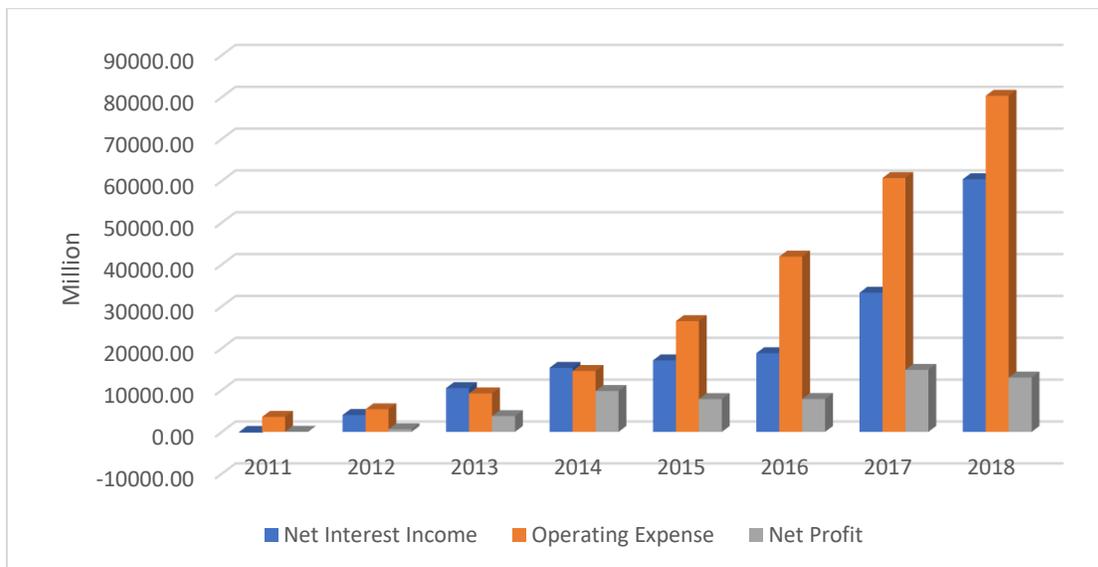
Variable	Description	Notation
Dependent variables		
Return on Asset	The return on total assets of the bank in years.	ROA
Return on Equity	The return on equity capital of the bank in years.	ROE
Net Interest Margin	The difference between interest income and interest expenses as a percentage of total assets	NIM
Independent variables		
Bank Size	Natural logarithm of total asset of the bank	LAS
Asset Quality	The ratio of total NPL to total loan and advance	ASQ
Liquidity	The ratio of loans over deposits	LIQ
Capital Adequacy	The ratio of gross capital over total assets	CAP
Management Efficiency	The ratio of operating expenses to operating income	MGE

Sources: Survey Data 2019.

4.2 Profitability of AYA Bank

In this table, analyzing profitability by using net interest income and operating expenses from 2011 to 2018 financial statement.

Figure 2: Profitability of AYA Bank



Sources: Survey Data 2019.

According to the result from calculating the elements of financial statement, the net profit was continuously increase 2011 to 2014. In 2015 net profit was slightly decrease to 2016. Once increase in 2017 and decrease in 2018. Analyzing the determinants, when bank size is greater the profit was increase. On the other determinant of net interest income, which was increase then the profit was also increased. According to the operating expense, that was greater the profit was lower. The years in this study, the operating expenses is extremely increase in after 2016 because of the bank was expending its' market and developing the innovative products and infrastructure.

4.3 Descriptive Statistics of Determinants

In this section descriptive statistics for the dependent variables; Return on Asset (ROA), Return on Equity (ROE), and Net Interest Margin (NIM) and explanatory variables involved in the regression model are presented. Mean and standard deviation values are included in the table below. These figures are gives overall description about data used in the Mean and Standard Deviation. The table below shows descriptive statistics for all variables. Return on Asset, Return

on Equity, and Net Interest Margin all have a positive mean value 0.5626, 10.4473, and 2.0252 respectively. There is greater variation in the data set of Return on Equity, because bank is employed more capital, which increases bank's ROE. Bank size, liquidity and Management efficiency show high mean value of 1932098, 60.63, and 116 respectively. Liquidity which measured by total loan to total deposits has been a highest mean value, that means there is no liquidity problem because, the data shows their level of total deposits greater than the total loans.

Table (4.2) Description of the variables used in the descriptive statistics

This table show that mean value and standard deviation of dependent variables and independent variables.

Dependent Variable	Mean	Standard Deviation
ROA	0.5626%	0.41255%
ROE	10.4473%	6.46858%
NIM	2.0252%	1.49362%
Independent Variable	Mean	Standard Deviation
Bank Size	1932098.3316	1880726.69339
Asset Quality	1.9426%	3.09568%
Liquidity	60.6305%	8.18968%
Capital Adequacy	22.3023%	22.48273%
Management Efficiency	116.2458%	46.44125%

Source: Survey Data 2019.

As it can be seen from table (4.2), Return on asset has mean value of, 0.56 which is lowest as compared to that of other dependent variables. The standard deviation 0.41 showed that there was lowest variability in the data for the profitability measures. Return on equity has average value of 10.45 it is the highest of all dependent variables. The standard deviation 6.47 showed high variability. Lastly, Net Interest Margin mean was 2.03 and standard deviation 1.5 which is

not far from mean value and showed moderate variability as compared to other dependent variables. It means that AYA bank is applying relatively consistent interest rate on all kinds of finances and few variations were observed in net interest margin.

Explanatory variables also displayed in table (4.2), and five independent variables which are expected to determine the profitability of AYA Bank's are exhibited; bank size, asset quality, liquidity, capital adequacy, managerial efficiency, have different characteristics. Capital adequacy has the second lowest mean value of 22.3 and the moderate standard deviation of 22.5 as compared to other independent variables. This shows that the data was consistent because the standard deviation value is not much far from the mean value. Asset quality has the average value of 1.94 and the standard deviation value of 3.1. The mean value of asset quality indicates that about 1.94 percent of total loan and advance of AYA bank's was comprises non-performing loans. Thus, AYA bank has a moderate asset quality; because the result is rarely far from the average value (1.9 percent) of NPL from their loan and advance as reported.

Managerial efficiency has the moderate mean value of 116.24 and the standard deviation value of 46.44 which is the highly variability as compared to other explanatory variables. The mean value indicates that AYA bank is not efficient.

The mean value of liquidity of AYA bank was 60.63, and the standard deviation value of the variable is 8.19, highest deviation as compare to other explanatory variables. The mean value of liquidity shows that AYA bank was very liquid.

The bank size plays an important role to maintain the position of a bank in the market. The size of AYA bank under this study has mean value of 1932098, and the standard deviation value is 1880726. These results show that AYA bank has a rarely large variation in their total asset.

4.4 Correlation Analysis the Determinants of Profitability

Correlation between profitability measures; return on asset, return on equity, and net interest margin and independent variables; capital adequacy, asset quality, managerial efficiency, liquidity and bank size have been presented and analyzed. A correlation matrix used to ensure the correlation between explanatory variables.

Correlation Analysis between Determinants and ROA

The alternative way of analysis, correlation is show that how effect the determinant on profitability between the ROA and independent variables.

Table (4.3) Correlation matrix: ROA

	ROA	BSZ	ASQ	LIQ	CAP	MGE
ROA	1					
BSZ	-.276	1				
ASQ	-.348	.827	1			
LIQ	.595	-.082	-.200	1		
CAP	-.259	-.757	-.527	-.496	1	
MGE	-.310	.843**	.880**	-.198	-.668	1

Source: Survey Data 2019.

As per the table (4.3), the correlation coefficient between return on asset and asset quality was -0.348 which is the negative relation as compared to other variables, this mean that AYA bank's asset quality has not association with profitability. But, liquidity and return on asset has highest positive correlation coefficient which is 0.6. This result shows that the liquidity of AYA bank which measured by the ratio of total loan to total deposit have significant relationship with the profitability measured by return on asset.

Correlation Analysis between Determinants and ROE

The alternative way of analysis, correlation is show that how effect the determinant on profitability between the ROE and independent variables.

Table (4.4) Correlation matrix ROE

	ROE	BSZ	ASQ	LIQ	CAP	MGE
ROE	1					
BSZ	.316	1				
ASQ	-.018	.827*	1			
LIQ	.454	-.082	-.200	1		
CAP	-.733*	-.757*	-.527	-.496	1	
MGE	.257	.843**	.880	-.198	-.668	1

Source: Survey Data 2019.

Return on Equity (ROE), the net income per total equity capital, which is more concerned about how much the bank is earning on their equity investment. The correlation analysis was done between profitability measures; return on equity and independent variables; capital adequacy, asset quality, managerial efficiency, liquidity and bank size.

As described in the table (4.4) there is a positive relationship between return on equity and liquidity, managerial efficiency and bank size. Bank size which was measured by logarithm of total asset has a considerable relationship with ROE (a coefficient of 0.669), since AYA Bank is more concerned to increase their capital investment their net profit per total equity capital increases. Size is closely related to the capital adequacy of a bank since relatively large banks tend to raise less expensive capital and hence it appears more profitable. Managerial efficiency also significantly correlated with ROE. While, there is a negative correlation of -0.733 between return on equity and capital adequacy. Capital adequacy has similar implication like return on asset, which means the size of capital equity was not influence on profitability.

Correlation Analysis between Determinants and NIM

The alternative way of analysis, correlation is show that how effect the determinant on profitability between the NIM and independent variables.

Table (4.5) Correlation matrix NIM

	NIM	BSZ	ASQ	LIQ	CAP	MGE
NIM	1					
BSZ	-.129	1				
ASQ	-.024	.827*	1			
LIQ	.791*	-.082	-.200	1		
CAP	-.352	-.757*	-.527	-.496	1	
MGE	-.110	.843**	.880**	-.198	-.668	1

Source: Survey Data 2019.

One of a bank's primary intermediation functions is to issue liabilities and use the proceeds to purchase income-earning assets, and Net Interest Margin (NIM) can be measured as the difference between interest income and interest expenses as a percentage of total assets. The correlation analysis between profitability measures; net interest margin and independent variables; capital adequacy, asset quality, managerial efficiency, liquidity and bank size was done. According to the table (4.5), there is a positive correlation between net interest margin and liquidity. This mean that greater amount of total loan lead to greater profit. Whereas, Asset quality, capital adequacy, managerial efficiency and bank size have negative correlation coefficient with net interest margin, which indicates that the amount of total loan were not correlated between the bank's assets, and the managerial efficiency, capital adequacy

4.5 Regression Analysis

Bank Size on Profitability

The relationship between bank size on profitability were analyzed by simple linear regression method.

Table (4.6) Bank Size on Profitability

	ROA		ROE		NIM	
	B	Sig	B	Sig	B	Sig
Constant	0.68	0.023	8.346	0.053	2.223	0.038
Bank Size	-6.06E-08	0.508	1.087E-6	0.446	-1.021E-7	0.762
R	0.276		0.316		.129	
R square	0.076		0.1		0.017	
Adjusted R Square	-0.078		-0.05		-0.147	
F	0.496		0.666		0.101	
Sig	0.508		0.446		0.762	

Source: Survey Data 2019.

According to the table (4.6), shows that how effect the determinant on profitability between the NIM and independent variables.

To examine the relationship between profitability measures and explanatory variables three regression analysis were run. The regression analysis was undertaken to investigate the relationship between ROA, ROE and NIM with independent variable of bank size.

Coefficients, standard errors, for Bank Size and R-squared, Adjusted R-squared, F-statistic included in the study are presented. Bank size is not effect on all measurements; return on asset, return on equity and net interest income. This indicates the larger banks are likely to have a higher degree of product and loan diversification than smaller banks. Not only increasing profitability but also growing banking size. The negative relationship between size and

profitability due to infrastructure costs, development processes and other reasons related to a large firm size.

Asset Quality on Profitability

The relationship between asset quality on profitability were analyzed by simple linear regression method.

Table (4.7) Asset Quality on Profitability

	ROA		ROE		NIM	
	B	Sig	B	Sig	B	Sig
Constant	0.653	0.010	10.522	0.012	2.048	0.025
Asset Quality	-0.046	0.399	-0.038	0.966	-0.012	0.954
R	0.348		.018		.024	
R square	0.121		0.000		0.001	
F	0.825		0.002		0.004	
Sig	0.399		0.966		0.954	

Source: Survey Data 2019.

According to the table (4.7), shows that how effect the determinant on profitability between the NIM and independent variables.

To examine the relationship between profitability measures and explanatory variables simple regression analysis were run. The first regression analysis was undertaken to investigate the relationship between ROA, ROE and NIM with independent variable of asset quality.

Coefficients, standard errors, for Asset Quality and R-squared, F-statistic included in the study are presented. Asset quality is not effect on all measurements; return on asset, return on equity and net interest income. The quality of assets particularly, used ratio of Nonperforming assets (loans) to total loans and advances (NPL) as an indicator of Banks' asset quality. Thus, asset quality had not a direct impact on the profitability of AYA Bank.

Liquidity on Profitability

The relationship between liquidity on profitability were analyzed by simple linear regression method.

Table (4.8) Liquidity on Profitability

	ROA		ROE		NIM	
	B	Sig	B	Sig	B	Sig
Constant	-1.255	0.261	-11.288	0.544	-6.723	0.052
Liquidity	0.030	0.120	0.358	0.259	0.144	0.019
R	0.595		0.454		0.791	
R square	0.354		0.206		0.626	
F	3.288		1.56		10.041	
Sig	0.120		0.259		0.019	

Source: Survey Data 2019.

According to the table (4.8), shows that how effect the determinant on profitability between the NIM and independent variables.

To examine the relationship between profitability measures and independent variables simple regression analysis were run. The first regression analysis was undertaken to investigate the relationship between ROA, ROE and NIM with independent variable of liquidity. Coefficients, standard errors, for liquidity and R-squared, F-statistic included in the study are presented. Liquidity was not impact with the measurements; except for net interest income. The result; Profitability (NIM) was effected by liquidity. As liquidity has positive relationship with profitability, this mean that the large number of loan amount will lead to greater profitability.

Capital Adequacy on Profitability

Table (4.9) show the effectiveness of capital adequacy on profitability by using simple linear regression method.

Table (4.9) Capital Adequacy on Profitability

	ROA		ROE		NIM	
	B	Sig	B	Sig	B	Sig
Constant	0.669	0.024	15.152	0.001	2.546	0.017
Capital Adequacy	-0.005	0.536	-0.211	0.039	-0.023	0.393
R	0.259		0.733		0.352	
R square	0.067		0.537		0.124	
F	0.431		6.972		0.847	
Sig	0.536		0.039		0.393	

Source: Survey Data 2019.

According to the table (4.9), shows that how effect the determinant on profitability between the ROA, ROE and NIM with independent variables.

To examine the relationship between profitability measures and independent variables simple regression analysis were run. The first regression analysis was undertaken to investigate the relationship between ROA, ROE and NIM with independent variable of capital adequacy.

The coefficients, standard errors, for explanatory variables and R-squared, Adjusted R-squared, Standard Error of estimate, F-statistic included in the study are presented.

As it can be seen capital adequacy is not statistically significant with profitability measurements; except for return on equity. In this result Profitability (ROE) was effected by

capital adequacy. This mean that banks with high capital ratio tend to earn more profit. The size of capital also influences the profitability of the bank in terms of return on capital employed.

Management Efficiency on Profitability

Table (4.10) show the effectiveness of management efficiency on profitability by using simple linear regression method.

Table (4.10) Management Efficiency on Profitability

	B	Sig	B	Sig	B	Sig
Constant	-1.255	0.261	6.289	0.392	2.436	0.183
Management Efficiency	0.030	0.120	0.036	0.539	-0.004	0.795
R	0.310		0.257		0.110	
R square	0.096		0.066		0.012	
F	0.636		0.424		0.073	
Sig	0.455		0.539		0.795	

Source: Survey Data 2019.

Table (4.10), shows that how effect the determinant on profitability.

To examine the relationship between profitability measures and independent variables by using simple regression analysis. The first regression analysis was undertaken to investigate the relationship between ROA, ROE and NIM with independent variable of management efficiency. In the following table coefficients, standard errors, for explanatory variables and R-squared, Adjusted R-squared, Standard Error of estimate, F-statistic included in the study are presented.

As it can be seen management efficiency is not statistically significant with all measurements; return on asset, return on equity and net interest income.

In this result Profitability, ROA, ROE and NIM were not effected by management efficiency. This mean although higher efficiency level of a bank, lower its profits level. A negative

relationship is expected between efficiency and profitability of banks. The analysis of the quality of a management is based on the experience of the management and their track record in terms of their vision and competence in running the bank.

CHAPTER 5

CONCLUSION

In this section, the major findings of the study are summarized; conclusions are drawn based on the findings and recommendations are forwarded for the concerned bodies.

5.1 Findings

The main objective of this study was to analyze the profitability of AYA Bank and to explore the determinants of bank-specific factors. The observations from 2011 to 2018 secondary data of AYA Bank was analyzed using simple linear regressions method.

With regard to secondary data analysis based on the financial statement of AYA Bank and three regression models were used for three profitability measures; (ROA), (ROE), and (NIM). Mean and standard deviation value of the respondents was used to rank the determinants that affect the profitability of AYA Bank.

The major findings of the descriptive statistics study results from Net Profit was continuously increase to 2014 and slightly decrease to 2016. Once increase in 2017 and decrease in 2018. Analyzing the determinants, the years in this study, the operating expenses is extremely increase after 2016 because of the bank was expending its' market and developing the innovative products and infrastructure.

Finding from the correlation coefficient result, there are positive relation of liquidity with ROA, ROE and MGE which means that more liquid assets, that increasing total loan amount were lead to raise profitability.

The regression analysis result show that ROE is effected by capital adequacy, this mean that banks with high capital ratio tend to earn more profit. The size of capital also influences the profitability of the bank in terms of return on capital employed. So also NIM is effected by liquidity, this mean that the large number of loan amount will lead to greater profitability.

5.2 Suggestion

Thus, it can be concluded that profitability in AYA Bank is largely driven by capital position and liquidity than other internal and external factors.

In order to hold up risky surprises and maintaining financial stability, it is vital to Identify the determinants that mostly influence the overall performance of Banks.

Therefore, based on the study results I would like to forward the following recommendations for the concerned bodies to be sustainable growth the bank.

Management bodies of Bank's should strive to strengthen the bank specific factors like capital position, managerial efficiency, asset quality, and bank size. Because, The competition become tough since increase in new entrant to the market, banks are increasingly being substituted by the general public as a source of funds by new share companies being established in a variety of sectors, and the micro-finance industry continues to show rapid growth.

Thus, Banks should focus to reach their demand of finance by adjusting their strategy with the government regulation.

At last, this study investigates the determinants of profitability of AYA Banks. But, the variables included in the study were not exhaustive. Future researchers could include other bank specific and macroeconomic variables such as regulatory, inflation and exchange rates in the regression models.

5.3 Need for Further Study

This study, Determinants of Bank's Profitability was based on the secondary data of AYA Bank. The data collection is only 8 years from the bank established to nowadays. This study is based on the secondary data, Myanmar private banks' financial statements are not available from their website at least 5 years, so the data size is rather small and using the simple linear regression method.

If there were enough sample size to run multiple regression method, the finding and conclusion should be more sufficient.

REFERENCES

- Ayele, H. N. (2012). Determinants of bank profitability: An empirical study on Ethiopian private commercial banks. *Unpublished MBA Project, Addis Ababa University*.
- Bateni, L., Vaklifard, H., & Asghari, F. (2014). The influential factors on capital adequacy ratio in Iranian banks. *International Journal of Economics and Finance*, 6(11), 108-116.
- Olweny, T., & Shipho, T. M. (2011). Effects of banking sectoral factors on the profitability of commercial banks in Kenya. *Economics and Finance Review*, 1(5), 1-30.
- Jha, S., & Hui, X. (2012). A comparison of financial performance of commercial banks: A case study of Nepal. *African Journal of Business Management*, 6(25), 7601-7611.
- Harris, H., Guru, B. K., & Avvari, M. V. (2011). Evidence of firms' perceptions toward electronic payment systems (EPS) in Malaysia. *International Journal of Business and Information*, 6(2).
- Ani, W. U., Ugwunta, D. O., Ezeudu, I. J., & Ugwuanyi, G. O. (2012). An empirical assessment of the determinants of bank profitability in Nigeria: Bank characteristics panel evidence. *Journal of Accounting and Taxation*, 4(3), 38-43.
- Javaid, S., Anwar, J., Zaman, K., & Ghafoor, A. (2011). Determinants of bank profitability in Pakistan: Internal factor analysis. *Journal of Yasar University*, 23(6), 3794-3804.
- Hassan, M. K., & Bashir, A. H. M. (2003, December). Determinants of Islamic banking profitability. In *10th ERF annual conference, Morocco* (Vol. 7, pp. 2-31).
- Echekoba, F. N., Egbunike, C. F., & Ezu, D. K. (2014). Determinants of bank profitability in Nigeria: Using Camel Rating Model (2001–2010). *IOSR Journal of Business and Management*, 16(9), 44-50.
- Avkiran, N. K. (1997). Models of retail performance for bank branches: predicting the level of key business drivers. *International Journal of Bank Marketing*, 15(6), 224-237.
- Onuonga, S. M. (2014). The Analysis of Profitability of Kenyas Top Six Commercial Banks: Internal Factor Analysis. *American International Journal of Social Science*, 3(5), 94-103.

<https://www.cbm.gov.mm/>

https://www.ayabank.com/en_US/

APPENDIX

Descriptive Statistics Analysis ROA with Determinants

	Mean	Std. Deviation	N
ROA	0.5626%	0.41255%	8
Bank Size	1932098.3316	1880726.69339	8
Asset Quality	1.9426%	3.09568%	8
Liquidity	60.6305%	8.18968%	8
Capital Adequacy	22.3023%	22.48273%	8
Management Efficiency	116.2458%	46.44125%	8

Correlation Analysis ROA with Determinants

Correlations

		ROA	Bank Size	Asset Quality	Liquidity	Capital Adequacy	Management Efficiency
ROA	Pearson Correlation	1	-.276	-.348	.595	-.259	-.310
	Sig. (2-tailed)		.508	.399	.120	.536	.455
	N	8	8	8	8	8	8
Bank Size	Pearson Correlation	-.276	1	.827*	-.082	-.757*	.843**
	Sig. (2-tailed)	.508		.011	.847	.030	.009
	N	8	8	8	8	8	8
Asset Quality	Pearson Correlation	-.348	.827*	1	-.200	-.527	.880**
	Sig. (2-tailed)	.399	.011		.635	.179	.004
	N	8	8	8	8	8	8
Liquidity	Pearson Correlation	.595	-.082	-.200	1	-.496	-.198
	Sig. (2-tailed)	.120	.847	.635		.211	.639
	N	8	8	8	8	8	8
Capital Adequacy	Pearson Correlation	-.259	-.757*	-.527	-.496	1	-.668
	Sig. (2-tailed)	.536	.030	.179	.211		.070
	N	8	8	8	8	8	8
Management Efficiency	Pearson Correlation	-.310	.843**	.880**	-.198	-.668	1
	Sig. (2-tailed)	.455	.009	.004	.639	.070	

N	8	8	8	8	8	8
---	---	---	---	---	---	---

*. Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Descriptive Statistics Analysis ROE with Determinants

Descriptive Statistics

	Mean	Std. Deviation	N
ROE	10.4473%	6.46858%	8
Bank Size	1932098.3316	1880726.69339	8
Asset Quality	1.9426%	3.09568%	8
Liquidity	60.6305%	8.18968%	8
Capital Adequacy	22.3023%	22.48273%	8
Management Efficiency	116.2458%	46.44125%	8

Correlation Analysis ROE with Determinants

Correlations

		ROE	Bank Size	Asset Quality	Liquidity	Capital Adequacy	Management Efficiency
ROE	Pearson Correlation	1	.316	-.018	.454	-.733*	.257
	Sig. (2-tailed)		.446	.966	.259	.039	.539
	N	8	8	8	8	8	8
Bank Size	Pearson Correlation	.316	1	.827*	-.082	-.757*	.843**
	Sig. (2-tailed)	.446		.011	.847	.030	.009
	N	8	8	8	8	8	8
Asset Quality	Pearson Correlation	-.018	.827*	1	-.200	-.527	.880**
	Sig. (2-tailed)	.966	.011		.635	.179	.004
	N	8	8	8	8	8	8
Liquidity	Pearson Correlation	.454	-.082	-.200	1	-.496	-.198
	Sig. (2-tailed)	.259	.847	.635		.211	.639
	N	8	8	8	8	8	8
Capital Adequacy	Pearson Correlation	-.733*	-.757*	-.527	-.496	1	-.668
	Sig. (2-tailed)	.039	.030	.179	.211		.070
	N	8	8	8	8	8	8

Management Efficiency	Pearson Correlation	.257	.843**	.880**	-.198	-.668	1
	Sig. (2-tailed)	.539	.009	.004	.639	.070	
	N	8	8	8	8	8	8

*. Correlation is significant at the 0.05 level (2-tailed).

** . Correlation is significant at the 0.01 level (2-tailed).

Descriptive Statistics Analysis NIM with Determinants

Descriptive Statistics

	Mean	Std. Deviation	N
NIM	2.0252%	1.49362%	8
Bank Size	1932098.3316	1880726.69339	8
Asset Quality	1.9426%	3.09568%	8
Liquidity	60.6305%	8.18968%	8
Capital Adequacy	22.3023%	22.48273%	8
Management Efficiency	116.2458%	46.44125%	8

Correlation Analysis NIM with Determinants

Correlations

		NIM	Bank Size	Asset Quality	Liquidity	Capital Adequacy	Management Efficiency
NIM	Pearson Correlation	1	-.129	-.024	.791*	-.352	-.110
	Sig. (2-tailed)		.762	.954	.019	.393	.795
	N	8	8	8	8	8	8
Bank Size	Pearson Correlation	-.129	1	.827*	-.082	-.757*	.843**
	Sig. (2-tailed)	.762		.011	.847	.030	.009
	N	8	8	8	8	8	8
Asset Quality	Pearson Correlation	-.024	.827*	1	-.200	-.527	.880**
	Sig. (2-tailed)	.954	.011		.635	.179	.004
	N	8	8	8	8	8	8
Liquidity	Pearson Correlation	.791*	-.082	-.200	1	-.496	-.198
	Sig. (2-tailed)						

	Sig. (2-tailed)	.019	.847	.635		.211	.639
	N	8	8	8	8	8	8
Capital Adequacy	Pearson Correlation	-.352	-.757*	-.527	-.496	1	-.668
	Sig. (2-tailed)	.393	.030	.179	.211		.070
	N	8	8	8	8	8	8
Management Efficiency	Pearson Correlation	-.110	.843**	.880**	-.198	-.668	1
	Sig. (2-tailed)	.795	.009	.004	.639	.070	
	N	8	8	8	8	8	8

*. Correlation is significant at the 0.05 level (2-tailed).

** . Correlation is significant at the 0.01 level (2-tailed).

Regression Bank Size with ROA

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.276 ^a	.076	-.078	0.42826%

a. Predictors: (Constant), Bank Size

b. Dependent Variable: ROA

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.091	1	.091	.496	.508 ^b
	Residual	1.100	6	.183		
	Total	1.191	7			

a. Dependent Variable: ROA

b. Predictors: (Constant), Bank Size

Coefficient

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.680	.225		3.022	.023
	Bank Size	-6.060E-8	.000	-.276	-.704	.508

a. Dependent Variable: ROA

Regression Asset Quality with ROA

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.348 ^a	.121	-.026	0.41780%

a. Predictors: (Constant), Asset Quality

b. Dependent Variable: ROA

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.144	1	.144	.825	.399 ^b
	Residual	1.047	6	.175		
	Total	1.191	7			

a. Dependent Variable: ROA

b. Predictors: (Constant), Asset Quality

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.653	.178		3.669	.010
	Asset Quality	-.046	.051	-.348	-.908	.399

a. Dependent Variable: ROA

Regression Analysis Liquidity with ROA

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Liquidity ^b	.	Enter

a. Dependent Variable: ROA

b. All requested variables entered.

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.422	1	.422	3.288	.120 ^b
	Residual	.770	6	.128		
	Total	1.191	7			

a. Dependent Variable: ROA

b. Predictors: (Constant), Liquidity

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.255	1.010		-1.242	.261
	Liquidity	.030	.017	.595	1.813	.120

a. Dependent Variable: ROA

Regression Analysis Capital Adequacy with ROA

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.259 ^a	.067	-.088	0.43041%

a. Predictors: (Constant), Capital Adequacy

b. Dependent Variable: ROA

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.080	1	.080	.431	.536 ^b
	Residual	1.112	6	.185		
	Total	1.191	7			

a. Dependent Variable: ROA

b. Predictors: (Constant), Capital Adequacy

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.669	.222		3.014	.024
	Capital Adequacy	-.005	.007	-.259	-.656	.536

a. Dependent Variable: ROA

Regression Analysis Management Efficiency with ROA

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.310 ^a	.096	-.055	0.42370%

a. Predictors: (Constant), Management Efficiency

b. Dependent Variable: ROA

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.114	1	.114	.636	.455 ^b
	Residual	1.077	6	.180		
	Total	1.191	7			

a. Dependent Variable: ROA

b. Predictors: (Constant), Management Efficiency

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.882	.428		2.062	.085
	Management Efficiency	-.003	.003	-.310	-.798	.455

a. Dependent Variable: ROA

Regression Analysis Bank Size with ROE

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.316 ^a	.100	-.050	6.62853%

a. Predictors: (Constant), Bank Size

b. Dependent Variable: ROE

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	29.274	1	29.274	.666	.446 ^b
	Residual	263.624	6	43.937		
	Total	292.898	7			

a. Dependent Variable: ROE

b. Predictors: (Constant), Bank Size

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8.346	3.481		2.398	.053
	Bank Size	1.087E-6	.000	.316	.816	.446

a. Dependent Variable: ROE

Regression Analysis Asset Quality with ROE

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.018 ^a	.000	-.166	6.98570%

a. Predictors: (Constant), Asset Quality

b. Dependent Variable: ROE

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.098	1	.098	.002	.966 ^b
	Residual	292.800	6	48.800		
	Total	292.898	7			

a. Dependent Variable: ROE

b. Predictors: (Constant), Asset Quality

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	10.522	2.974		3.538	.012
	Asset Quality	-.038	.853	-.018	-.045	.966

a. Dependent Variable: ROE

Regression Analysis Liquidity with ROE

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.454 ^a	.206	.074	6.22581%

a. Predictors: (Constant), Liquidity

b. Dependent Variable: ROE

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	60.334	1	60.334	1.557	.259 ^b
	Residual	232.564	6	38.761		
	Total	292.898	7			

a. Dependent Variable: ROE

b. Predictors: (Constant), Liquidity

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-11.288	17.559		-.643	.544
	Liquidity	.358	.287	.454	1.248	.259

a. Dependent Variable: ROE

Regression Analysis Capital Adequacy with ROE

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.733 ^a	.537	.460	4.75173%

a. Predictors: (Constant), Capital Adequacy

b. Dependent Variable: ROE

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	157.424	1	157.424	6.972	.039 ^b
	Residual	135.474	6	22.579		
	Total	292.898	7			

a. Dependent Variable: ROE

b. Predictors: (Constant), Capital Adequacy

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	15.152	2.449		6.187	.001
	Capital Adequacy	-.211	.080	-.733	-2.640	.039

a. Dependent Variable: ROE

Regression Analysis Management Efficiency with ROE

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.257 ^a	.066	-.090	6.75257%

a. Predictors: (Constant), Management Efficiency

b. Dependent Variable: ROE

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19.315	1	19.315	.424	.539 ^b
	Residual	273.583	6	45.597		
	Total	292.898	7			

a. Dependent Variable: ROE

b. Predictors: (Constant), Management Efficiency

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.289	6.820		.922	.392
	Management Efficiency	.036	.055	.257	.651	.539

a. Dependent Variable: ROE

Regression Analysis Bank Size with NIM

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.129 ^a	.017	-.147	1.59990%

a. Predictors: (Constant), Bank Size

b. Dependent Variable: NIM

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.258	1	.258	.101	.762 ^b
	Residual	15.358	6	2.560		
	Total	15.616	7			

a. Dependent Variable: NIM

b. Predictors: (Constant), Bank Size

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.223	.840		2.645	.038
	Bank Size	-1.021E-7	.000	-.129	-.318	.762

a. Dependent Variable: NIM

Regression Analysis Asset Quality with NIM

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.024 ^a	.001	-.166	1.61281%

a. Predictors: (Constant), Asset Quality

b. Dependent Variable: NIM

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.009	1	.009	.004	.954 ^b
	Residual	15.607	6	2.601		
	Total	15.616	7			

a. Dependent Variable: NIM

b. Predictors: (Constant), Asset Quality

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.048	.687		2.983	.025
	Asset Quality	-.012	.197	-.024	-.060	.954

a. Dependent Variable: NIM

Regression Analysis Liquidity with NIM

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.791 ^a	.626	.564	0.98666%

a. Predictors: (Constant), Liquidity

b. Dependent Variable: NIM

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.775	1	9.775	10.041	.019 ^b
	Residual	5.841	6	.973		
	Total	15.616	7			

a. Dependent Variable: NIM

b. Predictors: (Constant), Liquidity

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-6.723	2.783		-2.416	.052
	Liquidity	.144	.046	.791	3.169	.019

a. Dependent Variable: NIM

Regression Analysis Capital Adequacy with NIM

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.352 ^a	.124	-.022	1.51018%

a. Predictors: (Constant), Capital Adequacy

b. Dependent Variable: NIM

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.932	1	1.932	.847	.393 ^b
	Residual	13.684	6	2.281		
	Total	15.616	7			

a. Dependent Variable: NIM

b. Predictors: (Constant), Capital Adequacy

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.546	.778		3.272	.017
	Capital Adequacy	-.023	.025	-.352	-.921	.393

a. Dependent Variable: NIM

Regression Analysis Management Efficiency with NIM

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.110 ^a	.012	-.153	1.60350%

a. Predictors: (Constant), Management Efficiency

b. Dependent Variable: NIM

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.189	1	.189	.073	.795 ^b
	Residual	15.427	6	2.571		
	Total	15.616	7			

a. Dependent Variable: NIM

b. Predictors: (Constant), Management Efficiency

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.436	1.620		1.504	.183
	Management Efficiency	-.004	.013	-.110	-.271	.795

a. Dependent Variable: NIM

