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## **FACTORS CAUSING PROFIT FLUCTUATION IN ETHIOPIAN PRIVATE BANKS.**

by :

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Submitted to the department of Accounting and Finance in partial fulfillment of  
Master of Science in Accounting and Finance

**ADDIS ABABA UNIVERSITY**  
**COLLEGE OF BUSINESS AND ECONOMICS**  
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January, 2017

## Statement of Declaration

I, Adanech Shifa Mohammed, hereby declare that this thesis entitled “Factors causing profit fluctuation in Ethiopian Private Commercial Banks” submitted by me for the award of the degree of Master of Accounting and Finance, Addis Ababa University at Addis Ababa, Ethiopia, is my original work and it has never been presented in any university. All sources and materials used for this thesis have been duly acknowledged.

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This is to certify that the thesis entitled, “Factors causing profit fluctuation in Ethiopian Private Commercial Banks” was carried out by Adanech Shifa Mohammed under the supervision of Alem Hagos (Phd), submitted in partial fulfillment of the requirements for the degree of Master of Science in Accounting and Finance complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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## **ACKNOWLEDGEMENTS**

First and for most, my sole does magnify Allah who strengthen me throughout the research work, his merciful and source of knowledge & wisdom, who give upon me the health, the power of communication and courage to accomplish this project.

I would like to sincerely thank my advisor Dr. Alem Hagos for his constructive comments, valuable suggestions and good guidance. I equally thank him for his kindness and necessary encouragement.

I also would like to thank all bank staff members and managers of the six private commercial banks for their kind cooperation during data collection and timely return with full answers my questioner. My sincere gratitude goes to my all family members specially my mother Sofia Ali and Yohannes, Abdi, Belayneh, Dawit, Mohammed, Brook and to all my friends how support me unconditionally in this research work.

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## **Acronyms and Abbreviations**

AIB- Awash International Bank

BOA- Bank of Abyssinia

CBE- Commercial Bank of Ethiopia

COSR- Cost to Income Ratio

CPI- Consumer price index

DB- Dashen Bank

EA- Equity to Asset Ratio

GDP- Growth in domestic Product

LIQ- Liquid Asset/deposit and short term funding

LLR- Loan loss reserves to Gross Loans

NBE- National Bank of Ethiopia

NIB- Nib International Bank

NIM- Net Interest Margins

ROA- Return on Asset

ROE- Return on Equity

SSA- Sub-Sahara African Countries

UB- United Bank

WB- Wegagen Bank

## ***Abstract***

*This paper examines internal and external factors that cause profit fluctuation in Ethiopian Private Banks. Six private commercial banks were the subject for the study ranging from 2006 – 2015. The bank's financial statement, National Bank of Ethiopia and Ministry of finance and Economic Cooperation has been the main source of data for the study and the panel analysis has been carried out to obtain the result for this empirical study. Also the research used primary data (questioners). The samples are select using non probability/purposive sampling on the basis that the sample banks are representative of the specific problem. The study begins with Hausman test (Random Effect Model versus Fixed Effect Model) to determine the most suitable model to be used in this study. The empirical result shows that Banks Branch Expansion, Expense management and Asset quality have negatively affect profit and are the major contributor in profit fluctuation. The results suggest that Ethiopian private commercial banks could improve their expense management by formulating policies around these factors and banks have to pay attention to the Provision for Loan Losses. The findings also showed an insignificant relationship among inflation rate and Ethiopian private commercial banks profit fluctuation.*

***Key words:- Profit fluctuation, Private commercial Banks.***

## **Chapter One: Introduction**

### **1.1 Background of the study**

Banking business occupies one of the most important positions in the modern economic world .A healthy and vibrant economy requires a financial system that moves funds from people who save to people who have productive investment opportunities. The main role of a financial system is to assist the flow of funds. If a financial system is efficient and able to collect sufficient deposit from its customers and able to advance for investors, then it will show profitability improvements by increasing volume of funds flowing from savers to borrowers and by providing better quality services for consumers in commercial banks side (Gomez,2008). Hence banking business is necessary for trade and industry and it is one of the great agencies of commerce.

Today commercial banks play a virtual role in the economic development of any country. The case is not different in Ethiopia where commercial banks are developing tremendously. Compared to most countries, Ethiopia has taken a cautious approach toward the liberalization of its banking industry. For all intents and purposes, its industry is closed and generally less developed than its regional peers. The banking industry's nonperforming loan ratio is commendably low, and profitability is good, but the dominance of public sector banking certainly restricts financial intermediation and economic growth. It contrasts with regional and international peer countries where banking industries have a much higher share of private sector and foreign participation. In an attempt to liberalize and make the financial sector competitive, the Ethiopia government issued monetary and banking proclamation in 1994 which allow the participation of the private banks in the market (NBE, 1994). Currently as a result of increasing trade and economic activities, the important of commercial banks increase significantly. By seeing the augmentation of commercial activities and attractive profitability of the banking business, The industry comprises one state owned development bank and 18 commercial banks, two of which are state-owned, the dominant Commercial Bank of Ethiopia (CBE) and 16 private commercial Banks. (NBE, 2015).

The banking industry in Ethiopia is one of the most profitable businesses in the financial sector of the country. Commercial banks make their profits primarily by issuing loans (Mishkin, 2004).In this modern and dynamic world no business carries on with own funds. Rather most

business owners borrow a major or some portion of their capital. Commercial banks carry on their business in borrowed fund.

## **1.2 Statement of the Problem**

The banking system is the most important segment of a country financial system. It plays a very important role in providing the capital, whereby the financial intermediaries (that is, banks) channels of funds from economic units that have saved surplus of funds to those that have shortage of funds. The health of the nation's economy is closely related to the soundness of its banking system. Academic research across many countries has demonstrated that a highly developed banking sector plays important role in facilitating economic growth. A bank as a matter of fact is just like a heart in the economic structure and the capital provided by it is like blood in it. As long as blood is in circulation, the organs will remain sound and healthy. If the blood is not supplied to any organ then that part would become useless. So if there is no financing provided to the various sector in the economy, the economy will not grow and expand. (Africa Journal of business management ( 2013) Ong Tze San)

An efficient financial system requires a regulatory framework but with well-defined objectives, adequate and clear legal frameworks which is free of bias and transparent supervision procedure (Gomez, 2008). The existence of bias regulation in favor of public owned commercial banks while the motive is more or less the same, i.e profit maximization, have its own impact by limiting the participations of private banks in the economic activities of the country and shrinking their profit.

Currently in Ethiopia private banks is pressure by regulatory burdens. The directions of some regulatory burdens are in particular against the income of private banks and are continuing to raise concerns among them. This can be evidencing by, the central bank of Ethiopia issues regulation which imposes private commercial banks to issues 27% of their loan disbursement to purchase Government bonds for the purpose of financing nationwide grand projects like great renaissance dam and hydro- electric powers projects while excluding state own bank i.e Commercial bank of Ethiopia (CBE). This create challenges against private banks lending potential and liquidity position. The Central bank of Ethiopia also limits the duration of credit facility provide by private banks by restrict 40% of their total outstanding credit facility be short term loan ( repay within one year) .

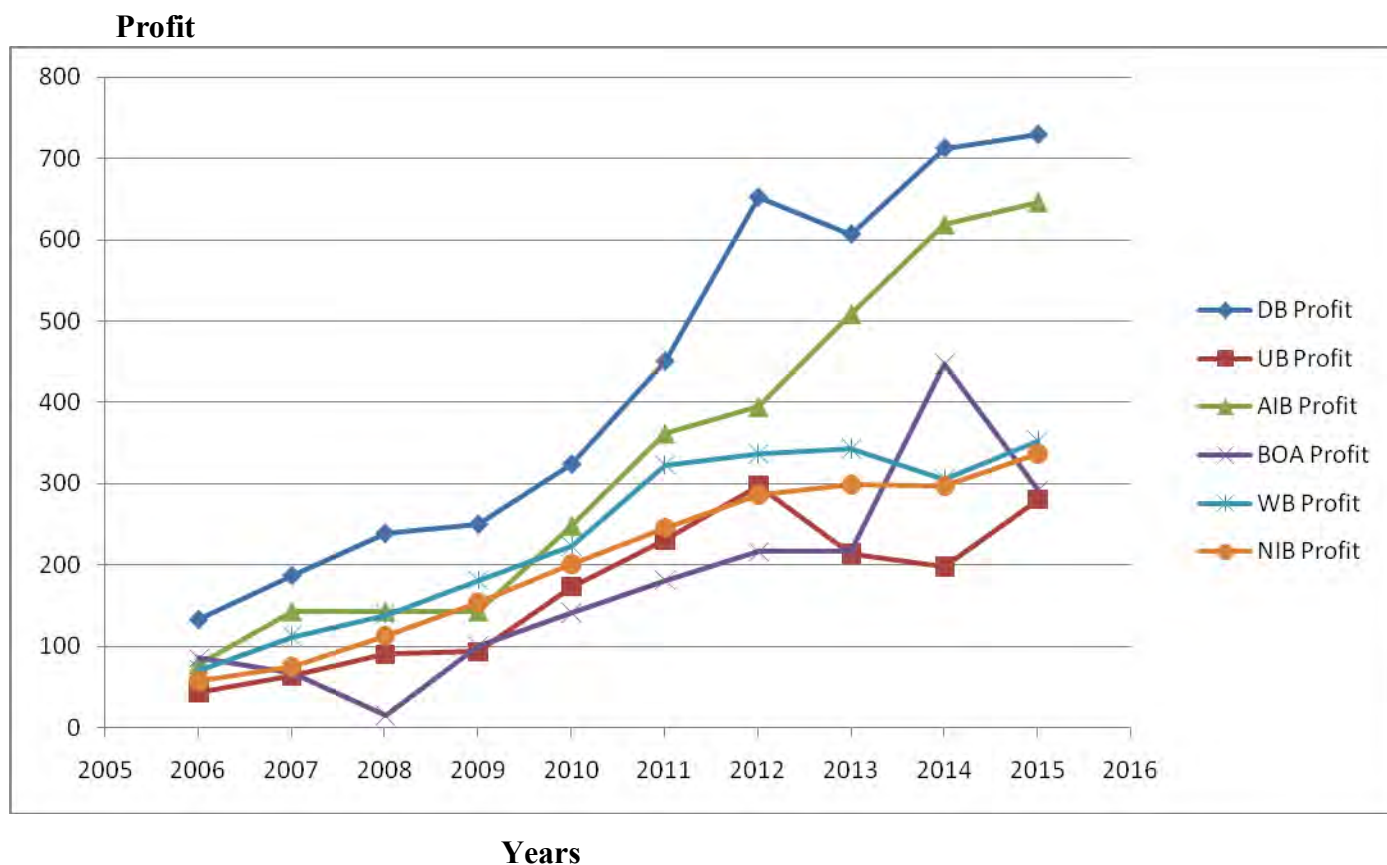
The other phenomena observed in the banking industry is an increase in the number of private commercial banks within the country while they are unable to enlarge their market share. Rather they share the existing business communities. Profit fluctuation of some existing private commercial banks is good evidence in this regard. As we can observe, the newly emerging private banks grow rapidly than the existing one as a result of inter transfer of bankable customer among banks rather than finding new market.

A few research conducted by different researchers regarding determinants of commercial banks profitability in developing countries as well as in Ethiopia. At developing countries level, Demirgüç and Huizinga (1998) analyze that factors that affect depositor and borrower behavior are determinants of banks profitability, Al-Haschimi (2007) studies the determinants of bank profitability is net interest rate margins Valentina (2009) argued that banks return are affected by macroeconomic variables.

When we come to our country Habtamu (2012) empirical study showed that bank specific factors; capital adequacy, managerial efficiency, bank size and macro-economic factors; level of GDP, and regulation have a strong influence on the profitability of private commercial banks in Ethiopia. Yigremachew (2008) identifies that interest and non-interest income and interest expense are the main determining factor for the profitability of private banks in Ethiopia. While thus research studies concern is determinates of private banks profit, this study try to identify the major causes of profit fluctuation in private banks based on the current incident in our country.

Yet now a day's in Ethiopia unfavorable event is happening in the banking industry which causes to fluctuate large private commercial banks profit. Currently major Ethiopian private commercial banks profit fluctuates in comparison with their last years' trends. There are various internal and external factors responsible for this:- Micro and Macro Economic factures (like Bank size, asset quality, capital adequacy, expense management, real GDP growth, inflation rate, highly regulatory rules of government on private banks while favor public commercial banks, are the major one.

Graph 1.1 show profit fluctuation of private Bank for the year 2006 to 2015.



**:- Profit fluctuation of private commercial banks**

**Table 1.1** This table shows the trends of private banks profit from the year 2006 to 2015 in millions of (Birr)

Budget Year	DB Profit	UB Profit	AIB Profit	BOA Profit	WB Profit	NIB Profit
2006	133	44	78	85	71	58
2007	187	64	143	67	112	76
2008	239	91	143	14.58	139	113
2009	250	94	143	100.46	181	154
2010	324.04	174	248	141	223	201
2011	450.66	232	361	181	323	246
2012	652.02	298	394	216	336	286
2013	606.79	214	508	216	343	299

2014	712.48	198.27	618	447	305	297
2015	729.13	281.32	645.34	291.74	352.45	337

Recent data also testifies that mostly, the banking sector has experienced positive profitability growth but fluctuated in its trends related to balance sheet expansion (NBE Report 2011/12). However, the contributing factors, whether internal or external, to the fluctuation of profitability trends by the industry was not well analyzed. It is important therefore, to understand if the banking sector profitability fluctuation is being driven by factors related to the bank or are from external sources or both. This raises some important issues: To what extent endogenous factors impact the profitability of banks? Do external factors impact the financial performance of commercial banks in Ethiopia? Which factors from external or internal have major share of responsibility for profit fluctuation in Ethiopian private Banks?

### **1.3 Basic Research Questions**

As per the above described problems our research will answer the following research questions

- What are the major factors that attribute for fluctuation in private banks profit?
- Do independent variables have relation with dependent variables? If yes, the relation is negative or positive?
- What will be the possible measures that will follow by commercial banks to increase their profit or to avoid any adverse circumstance that affect their profit?

### **1.4 Objectives of the study**

#### **1.4.1 General Objective**

The general objective of the study is to investigate the major causes of profit fluctuation in private banking industry.

#### **1.4.2 Specific Objectives**

Beside the general objective this research will have the following specific objectives.

- To examine the effect of credit risk on Private Banks profitability fluctuation.
- To evaluate how banks size contribute for profit fluctuation of private commercial Banks.
- To examine the effect of capital adequacy on private Banks profitability fluctuation
- To examine the effect of expense management on private commercial Banks profitability fluctuation.

- To examine the effect of intermediation on private commercial Banks profitability fluctuation
- To evaluate how macro economic variables contribute for profit fluctuation of private commercial Banks.

### **1.5 Research model and Hypothesis**

The research model will have the following hypothesis

- Hypothesis 1: Bank specific factors (Size of the Bank, Credit risk, Capital adequacy, Expanse management, Intermediation) have effect on Profit fluctuation.
- Hypothesis 2: Unfavorable regulations of the government against private banks are the major causes of private banks profit fluctuation.
- Hypothesis 3: Macro economic variables (Inflation and Real GDP) have effect on profit fluctuation.

### **1.6 Significance of the Study**

At the end of the study this research paper is useful to provide full and comprehensive information regarding the recent causes of fall in banks income trends with regard to Bank specific factors and clearly indicate the recent government policies influences on private banks profitability. The study also useful to indicate the possible measure that shall be following by private banks and gives useful information for policy makers regarding the subject matter and evoke them to take corrective measures for this specific industry. Finally it used as a guide line for other researchers who are interested to conduct research works in this area and fill the gap on literature.

### **1.7 Scope of the Study**

In Ethiopia there are 16 legally registered private commercial banks. The scope of the study is limited on those commercial banks that have been in the Ethiopian banking industry for the last ten years using primary and secondary financial data. The study includes six private commercial banks for the past ten years in the industry. These are, Awash International Bank, Bank of Abyssinia, Dashen Bank, Nib International Bank, United bank and Wegagen Bank.

### **1.8 Limitations of the Study**

Even though top level managers specifically banks presidents as well as branch managers interview regarding this topic is required, contacting such top managerial persons challenging in the research work. Hence certain types of respondents may not be easily approachable for interview purpose to get in depth information regarding the issue, the researcher used some questioners to collect data regarding the government policy effect on Banks profit fluctuation in addition to numerical figures of officially published annual reports by concentrating on components of profit indicators. Beside to this the researcher has faced challenges regarding acquiring adequate information related to literature reviews and annual reports of each banks for the last ten years. To handle this challenges the researcher visit the six Banks marketing department to collected adequate information from annual report of each banks and also visit NBE to collected information regarding inflation and real GDP growth of the country for the last ten years.

### **1.9 Organization of the Paper**

The research paper is organized into five chapters. The first chapter mainly deals with the introduction part, which include introduction, statement of the problem, research question, research hypothesis, and objective of the study, defining of terms, significant of the study, scope of the study and limitation of the study. The second chapter contains reviews of related literatures, which states theoretical as well as empirical explanations from various references. Chapter three and chapter four focus on research methodology and detail of data presentation, analysis and interpretation. Finally chapter five present the summary, conclusion and recommendation part.

## **Chapter Two:- Literature Review**

This part organize as relevant theories about profit fluctuation and banking business, related literature, related studies, summary of literature and research gaps, the conceptual framework and the definition of variables used in this study.

### **2.1 Commercial banks**

Commercial banks are financial intermediaries raise fund primary by issuing checkable deposits (deposits on which checks can be written), saving deposits and time deposits (deposits with fixed terms to maturity) and use these funds to make commercial, consumer and mortgage loans (Mishkin, 2004).

### **2.2 History of private banks in Ethiopia**

The introduction of modern banking history in Ethiopia starts in 1905 upon the establishment of Bank of Abyssinia. However the strong financial sector in Ethiopia established after National Bank of Ethiopia was established in 1963. The Bank used to carry out dual activities, i.e. commercial banking and central banking until Commercial bank of Ethiopia took over the commercial banking activities. The first privately owned bank, Addis Ababa Bank s.c, was established on Ethiopians initiative and started operation in 1964. However, monetary and banking proclamation in 1976 came into force to adoring without the existence of private banks. Later, monetary and banking proclamation No.83/1994 and the Licensing and Supervision of Banking Business No.84/1994 laid down the legal basis for investment in the banking sector. Consequently after the proclamation the first private bank, Awash International Bank was established in 1994. Since then a number of banks was established. Until the year 2000 G.C the number of private banks was six including the first private bank and thus is Dashen Bank and bank of Abysinia in 1995, Wegagen Bank in 1997, and United Bank in 1998, Nib International Bank in 1999. Currently in Ethiopia there are 18 private banks and one public owed commercial bank excluding Development bank of Ethiopia (NBE, 2014).

Regarding the banking sector of the country, Ethiopia appears unique compared to its East African neighbors (namely Kenya, Tanzania and Uganda) and many other developing countries because it has not yet opened its banking sector to foreign participation. The Ethiopian banking sector remains isolated from the impact of globalization. Although Ethiopian policy makers understand the potential importance of financial liberalization, it is widely believed that liberalization may result in loss of control over the economy and may not be economically beneficial. Ethiopia has no capital market and investing in shares of private companies is very limited. A series of financial sector reforms has been introduced since, 1994, when private banks were allowed to be re-established. But the two large state-owned banks (commercial bank of Ethiopia, the development bank of Ethiopia and the construction and business bank) continue to dominate the market in terms of capital, deposits and assets. The Ethiopian banking sector is dominated by one large state owned bank, the commercial bank of Ethiopia (CBE). In 2004, there were three state-owned banks and six private banks. The asset share of the CBE was 66.3%, while the share of all three state-owned banks was nearly 80%. (Wubitu, 2012)

National bank of Ethiopia indicates that from deposits that should be mobilized by banks only 7% is mobilized. That indicates that from the money that should be deposited in the bank 93% of it did not mobilize. From the countries tradition money may be kept in traditional way. This shows that the deposit mobilization practice among banks in the country is not developed and there should be mechanisms to mobilize such deposit rather than sitting and waiting for depositors to come and deposit their money. (Wubitu, 2012)

### **2.3 Related literature of Bank profitability**

Bank profitability is defined by Rose (2002) as the net after-tax income or net earnings of a bank (usually divided by a measure of bank size). There are various ways to measure the bank profitability. Financial ratios are found to be the most generally used methods. This is supported by Mamatzakis and Remoundos (2003). This study examined the determinants of the Greek commercial banks performance and discovered that financial ratios are excellent in explaining the bank profitability.

Financial ratios allow us to analyze and interpret the banks financial data and accounting information which provide us a deeper understanding on a bank financial situation and help us to

evaluate the bank performance. Furthermore, financial ratios allow us to make comparison among different sized banks, and serve as an industry's benchmark where we can compare the individual bank's ratio with the industry average (Vasiliou and Frangouli, 2000; Guru, et al., 2002).

There are many financial ratios that can be used to assess bank profitability performance. The previous studies suggested financial ratios such as Returns on Assets (ROA), Returns on Equity (ROE), and Net Interest Margins (NIM) are the common used indicators. Studies such as Naceur (2003), Peters et al. (2004), Mamatzakis and Remoundos (2003), Staikouras and Wood (2003), Kosmidou et al. (2008), Pasiouras and Kosmidou (2007), Athanasoglou et al. (2008), Heffernan and Fu (2008) employed ROA and ROE to measure for bank profitability,

On the other front, different researchers assessed performance in terms of bank prices (as measured by interest rates) rather than bank profitability. The justification as explained by Berger (1989) is that the use of price-concentration relationship instead of profit concentration relationship measures the performance of banks and their market structure. They argued that the price-concentration relationship imply that high levels of concentration allow for noncompetitive behavior that would result in lower interest rates given to depositors and/or higher lending rates to borrowers. However, as explained in Chirwa (2001), Molyneux and Forbes (1995) argued that price measures of performance create problems of cross subsidization of multi-product firm.

### **2.3.1 Bank profitability measures**

The performance of commercial banks can be affected by internal and external factors ( Flamini, C., Valentina C., McDonald, G., Liliana, S. (2009)). These factors can be classified into bank specific (internal) and macroeconomic (external) variables. The internal factors are individual bank characteristics which basically are influenced by the internal decisions of management and board. The external factors are sector wide or country wide factors which are beyond the control of the company and affect the profitability of banks.

A company remains in operation because it expects to make profits. Once that expectation is confirmed unattainable, the most rational decision is to close shop or exit the business. Three indicators, namely: Net Interest Margin (NIM), Return on Assets (ROA) and Return on Equity (ROE) were identified by Ahmed (2003) to be widely employed in the literature to measure

profitability. However, there are divergent views among scholars on the superiority of one indicator over the others as a good measure of profitability.

On the other hand there are some theories that can be applied to measure banks profit other than ROA, ROE and NIM. According to Standard asset pricing models arbitrage should ensure that riskier assets are remunerated with higher returns. These risks can be banks specific risk which means liquidity, foreign currency, credit, management inefficiency, capital inadequacy and etc which can be solved by itself. The other, Non-diversified risk (Systematic risk) like risk associated with macroeconomic environment, natural disaster, political instability, government regulations and supervision of Bank (Ibid).

### **2.3.1.1 Return on asset (ROA)**

$ROA = \text{Net Income} / \text{Average Total Assets}$

ROA is a comprehensive financial ratio to measure the profitability performance of banks. It measures the overall performance of the banks. According to Rose (2002), ROA is defined as net income divided by total assets. ROA tells us how many incomes that the management is able generated from the assets. Hence, ROA can be used to indicate the efficiency of bank management in converting asset into revenue (Goddard et al., 2004). We prefer higher ROA because this means that the management is efficient in making profits by utilizing the assets and performance of the bank is good.

Many regulators believe ROA is the best indicator for profitability. Rivard and Thomas (1997) reported that ROA is the best measure for bank profitability. This is because ROA is not distorted by high equity multipliers. ROA is also a proxy measure used to determine the ability of the company to produce income from the assets. Moreover, it is proven by Golin (2001) that ROA is the most important measure for bank profitability.

### **2.3.1.2 Return on equity (ROE)**

$ROE = \text{Net Income} / \text{Average Total Equity}$

ROE is defined as net income over by average total equity. It measures bank accounting profits per dollar of book equity capital (Rose, 2002). It shows the effectiveness of bank management in handling the shareholders funds to generate profits. We prefer high ROE as it implied that the management is efficient in managing the shareholders fund and generate to revenues to shareholders. Shareholders are benefits from its capital investment made to the bank.

Studies have shown that commercial banks in Ethiopia are more profitable with an average Return on Equity (ROE) of 21% (Yigremachew 2007). One of the major reasons behind high return in the sector is the existence of huge gap between the demand for bank service and the supply thereof. The Bank branch to population ratio reached 62,063.6 in during FY 2011/12 (NBE annual report 2011/12). That means, in Ethiopia despite the growth trend in the number of bank branches, the number of banks are few compared to the demand for the services.

Furthermore, ROE can be decomposed into a leverage factor (equity multiplier) and ROA. Equity multiplier refers as assets divided by equity, which is the reciprocal of the capital-to-asset ratio. It measures the leverage aspect of bank. In short, ROA measures profitability from the perspective of the overall efficiency of how a bank utilizes its total assets, whereas ROE captures profitability from the shareholders' perspective.

### **2.3.1.3 Net interest margin (NIM)**

$$\text{NIM} = \frac{\text{Net Interest Income} - \text{Net Interest Expenses}}{\text{Average Total Asset}}$$

The Net Interest Margin (NIM) is defined as the net interest income minus net interest expenses over the total assets. The interest income is referring to the income that bank collects from asset such as interest charged on loans, overdrafts and trade finance. The interest expense is the amount of interest payment that bank pay for its liabilities (savings accounts and other accounts). Bank involves in collecting deposits and lending. It pays the depositors at a lower interest rate, and uses that money to lend to borrowers at a higher interest rate. We have to minus the net interest expense from the net interest income to determine the NIM.

NIM was employed as performances measurement in Goldberg and Rai (1996), Hassan and Bashir (2003), Naceur (2003), Kosmidou et al. (2006), Heffernan and Fu (2008) studies. The high NIM indicates that the higher bank profitability performance provided the asset quality is maintained sound.

### **2.3.2 Bank-specific factors**

Internal determinants of bank profitability can be defined as factors that are influenced by a bank's management decisions. More precisely, the internal factors are bank specific variables which influence the profitability of specific bank,( Al-Tamimi, 2010; Aburime, 2005). Even if there is variation in the number of determinant factors pointed out by the number of studies, the

variables can be summarized using the CAMEL framework to proxy the bank specific factors as done in the study of Dang, 2011. CAMEL stands for Capital Adequacy, Asset Quality, Management Efficiency, Earnings ability and Liquidity. Each of these indicators is described below:

#### **2.3.2.1 Capital: Equity to asset ratio (EA)**

Capital adequacy of a bank is measured by Equity to Asset ratio (EA). Capital adequacy refers to the sufficiency amount of banks equity to absorb any shocks that the bank may experience. EA reflects the ability of the bank to withstand losses or financial risk.

A bank with a high EA has a strong ability to withstand the financial risk, lower the need to external funding, and subsequently result in higher profit. Besides, well-capitalized bank is able to gable more business opportunities. It is able and flexible in handling the risk and lowers the risk of going insolvent which will reduce the need of borrowing and subsequently increased bank profitability.

Demirguc-Kunt and Huizingha (1999) discovered that well-capitalized banks have a greater NIM and resulted in high profit. Berger (1995b), Mamatzakis and Remoundos (2003), Staikouras and Wood (2003) and Athanasoglou et al. (2008) found that the EA has a positive relationship with profitability. This indicates that the argument of well capitalized banks achieve in higher profitability is supported. Therefore, we expect that the relationship between EA and profitability is positive.

#### **2.3.2.2 Asset quality: Loan loss reserves to gross loans (LLR)**

Asset quality indicates the level of credit risk that a bank face as loan quality has historically been the area of vulnerability for many financial institutions and the biggest cause of bank failures. Bank asset quality is measured by Loan Loss Reserves to Gross Loans ratios (LLR).

LLR is the percentage of the total loan portfolio that has been set aside for bad loans. The higher LLR implied that the bank face a higher risk on its assets. If the asset quality is bad, it means the bank face higher default risk, the interest income will reduces while the provisions costs increase, subsequently lower the bank profitability.

However, as per the risk-return hypothesis, a high LLR indicated that risk has a positive correlated to profits given if the asset quality is good. This argument supported by Heffernan and Fu (2008) reported that LLR improve the bank profit as they discovered that LLR obtain a positive relationship with ROA and NIM, except for ROE.

#### **2.3.2.3 Efficiency: Cost to income ratio (COSR)**

Efficiency in the expenses management is measured by Cost to income ratio (COSR). COSR measures the operating costs banks (the expenses incurred in operating the banks).

Generally, the profits and expenses are negatively related as the higher expenses implied that lower profits, and vice versa. Efficient bank can operate in the lower COSR and achieve higher profit. However, this may not always be the case. Sometime the higher amounts of expenditures may be associated with higher volume of banking activities, which will lead to higher revenues.

Kosmidou et al. (2006) and Pasiouras and Kosmidou (2007) found that the COSR is significant negatively related to banks profitability. This is because the more expenses incurred will lower the bank profits. We prefer lower COSR as improve the bank profitability. Kosmidou et al. (2005) reported that expense management plays important roles in improving the bank profitability. The bank with poor expenses management will lower its profitability performance. So, COSR is expected to have an inverse relationship with profitability.

#### **2.3.2.4 Liquidity: Liquid assets/deposit and short-term funding (LIQ)**

Bank for International Settlements/BIS (2008) defines liquidity as the ability of bank to fund increases in assets and meet obligations as they come due, without incurring unacceptable losses. Hence, liquidity risk arises from the fundamental role of banks in the maturity transformation of short-term deposits into long-term loans. Therefore, banks have to hold optimal level of liquidity that can maximize their profit and enable them to meet their obligation. Alemayehu( 2016)

Bank liquidity simply means the ability of the bank to maintain sufficient funds to pay for its maturing obligations. It is the bank's ability to immediately meet cash, cheques, other withdrawals obligation and legitimate new loan demand while abiding by existing reserve requirements. When a bank does not have enough liquidity to fulfill its obligation, the bank is said to face liquidity risk. Alemayehu( 2016)

Bank liquidity is represented by Liquid Assets to Deposit and Short-Term Funding ratio (LIQ). LIQ indicates the ability of bank to meet its current obligations. However, liquid assets are usually associated with lower rate of return. The higher LIQ indicates that the banks are more liquid; bank may lose profitable investment activities and may result in lower profitability. Therefore, the expected result is that LIQ has an inverse impact on profitability. The results from empirical studies are mixed. Heffernan and Fu (2008) found that that LIQ has a positive impact ROA and ROE, but it has inverse relationship with NIM. Ong Tze San and Teh Boon Heng, (2012)

### **2.3.3 External factors of Bank Profitability**

External determinants of bank profitability are factors that are beyond the control of a bank's management. They represent events outside the influence of the bank,( Al-Tamimi, 2010; Aburime, 2005). The two major components of the external determinants are sector specific and macroeconomic factors.

#### **2.3.3.1 Sector Specific**

##### **Market Structure- Structure -Conduct -Performance Paradigm**

The relationship between profitability and market structure on the banking industry is based on the development of the theory in the industry organization. There are two competing hypotheses as to the relationship between profitability and market structure as discussed in the literatures.

The first is the traditional market structure- conduct-performance (SCP) or collusion hypothesis following the eminent work by Bain (1951) which postulates that market structure influences conduct of firms through prices or investment policies and this in turn translates into performance. This hypothesis asserts that the setting of prices that are less favorable to consumers (lower deposit rates and higher loan rates) in more concentrated market as a result of competitive imperfections in these markets (Berger 1995).

On the other hand, the traditional hypothesis was challenged by the efficient market hypothesis, which by some authors is referred to as the efficient structure hypothesis. The hypothesis is following the works of Demsetze (1973), which postulates that market concentration is not a random event but rather the result of the superior efficiency of the leading firms. Firms possessing a comparative advantage in production become large and obtain a high market share and, as a consequence, the market becomes more concentrated, Smirlock (1985).

## **Financial Structure/Deepening – Maturity of the Banking Sector**

Demirguc-Kunt and Huizinga (1999) present evidences that financial development and structure variables are very important. Their results show that banks in countries with more competitive banking sectors, where bank assets constitute a large portion of GDP, generally have smaller margins and are less profitable. Also, they notice that countries with underdeveloped financial systems tend to be less efficient and adopt less-than-competitive pricing behaviors.

### **Bank Size**

The size of banks (size) is one of important factor that influence profitability. Generally bank will large firm size is able to take greater loan and accessibility to markets which may not be available for smaller banks. The results from previous studies are mixed. European Commission (1997), Berger and Humphrey (1997) discovered that big bank achieve economies of scale. Spathis et al. (2002) studied on performance of small and large Greek banks over the period 1990-1999 and found large banks to be more efficient. Mamatzakis and Remoundos (2003) found that economies of scales significantly influence profitability. On the other hand, Vander (1998) found evidence of economies of scale for small banks or diseconomies for larger banks. Kosmidou et al. (2006) found that bank size is negatively related to bank profits in the research of investigating the impact of bank-specific characteristics, macroeconomic conditions and financial market structure on UK owned commercial banks' profits. As per the well-documented literature, we use banks' total assets as a proxy for its size to account for size-related economies or diseconomies of scale.

### **2.3.3.2 Macro-Economic Related**

There is wide variety of literature support the impact of the macroeconomic factors impact on bank performance. The macroeconomic policy stability, Gross Domestic Product, Inflation, Interest Rate and Political instability are also other macroeconomic variables that affect the performances of banks.

#### **Inflation**

Inflation is the rate at which the general level of prices for goods and services is rising in economy overtime. Inflation erodes the purchasing power of consumer because we buy fewer good and services with each unit of currency. The relationship between bank profitability and inflation was introduced by Revell (1980). The effect of inflation on bank profitability depends

on whether operation cost increase at a faster rate than inflation or vice versa. In the vein, Pasiouras and Kosmidou (2007) stated that inflation may have a positive or negative impact on banks profitability. The relationship is depending on whether the inflation rate is anticipated or unanticipated. If the inflation rate is anticipated, banks can adjust interest rates timely. As a result, the revenues increase faster than costs and consequently record a positive impact on profitability. On other hand, if inflation rate is unanticipated, banks cannot adjust the interest rates immediately and the cost will be higher than revenue. This will have a negative impact on profitability. Generally, inflation is measured by calculating the inflation rate of a price index, consumer price index (CPI). CPI is calculated base on rate of change in prices of a fixed basket of goods and services that represent the expenditure pattern of all households in Malaysia. Department of Statistics Malaysia will published the inflation rate that is measured by CPI. Hence, the inflation rate is the percentage rate of change of a CPI over time. CPI is an indicator for inflation. Mamatzakis and Remoundos (2003), Haron and Wan (2004), Kosmidou et al. (2006), and Athanasoglou et al. (2008) found that inflation has a positive impact on profitability. Based on the literature review searched, the theoretical framework hypotheses and regression model are thus developed.

### **GDP growth**

Most literatures support the positive impact of economic growth to Bank performance. For instance, the trend of GDP affects the demand for banks asset. During boom the demand for credit is high compared to recession (Athanasoglou et al., 2005). Bourke (1989) presents evidence that economic growth, if particularly, associated with entry barriers to the banking market, would potentially lift banks' profits.

Gross domestic product (GDP) is the most commonly used macroeconomic indicators. It refers as the income generated by output and production on a country's economy during a period of time. To measure the macroeconomic condition, GDP growth is used as proxy measure for GDP. The GDP growth is it defined as the annual change of the GDP. It reflects the state of the economic cycle. GDP growth is expected to have effect the supply and demand for loans and deposits. When economic booms, demand for credit or loan increased as well as the quality of asset. Bank can generate higher profit. As economic slows down, the GDP growth is slows down too. The lending tends to decrease. In addition, banks are associated with higher default risk and

provisions cost tends to higher, hence reduce bank profitability. In short, GDP growth can be served as an indicator of the demand for banking services. GDP growth is included as a variable that influence bank profitability (Kosmidou et al. 2006; Pasiouras and Kosmidou, 2007; Heffernan and Fu, 2008). Kosmidou (2006), Hassan and Bashir (2003) found that GDP growth has a positive impact on bank profitability. Thus, the GDP growth is expected.

#### **2.4 Regulatory concept of Profitability**

An examination of the theoretical definition of profit provides the most general guide. Profit is a simple residual concept but its level is determined by the complex interaction of a multitude of factors (Nugent, 1998). There is some theoretical explanations for relationships between regulation, ownership structure, balance sheet structure and profitability. Besides other objectives, the aim objective of regulation and supervision in the banking is to overcome the moral hazard problem in the banking sector.

Without any regulation, politicians assume that value-maximizing banks take on more risks than which is optimal and acceptable for depositors. Whilst risk taking is beneficial for average individual banks, one bank failure is highly undesirable for depositors and may spill over to the entire banking sector. Regulation that requires minimum capital ratios would likely negatively influence profitability as regulation constrains value-maximizing banks in risk taking and in reaching an optimal capital structure. Furthermore, according to Saunders and Cornett (2008) the net regulatory burden could also negatively influence bank performance. The net regulatory burden equals the cost minus the benefits of regulation. Costs of regulation are e.g. compliance referring to fulfillments of obligations imposed by law, costs of preparing reports and statements to regulators, or costs of being restricted from an optimal portfolio or capital structure.

Research on the determinants of bank profitability has focused on both the returns on bank assets and equity, and net interest rate margins. It has traditionally explored the impact on bank performance of bank-specific factors, such as risk, market power, and regulatory costs. More recently, research has focused on the impact of macroeconomic factors on bank performance (Valentina Flamini, et al, 2009).

#### **2.5 Political situation in Ethiopia**

The major political regulatory body of the banking industry is National Bank of Ethiopia. The National Bank of Ethiopia was established in 1963 by proclamation 206 of 1963 and began

operation in January 1964. Prior to this proclamation, the Bank used to carry out dual activities, i.e. commercial banking and central banking. The proclamation raised the Bank's capital to Ethiopian Birr 10 million and granted broad administrative autonomy and juridical personality.

Monetary and Banking proclamation of 1994 established the national bank of Ethiopia as a judicial entity, separated from the government and outlined its main function Major Products and Services of NBE

- ✓ Monetary policy statement
- ✓ Policy research and advice
- ✓ Banking, payment and settlement service
- ✓ Bank notes and coins supply
- ✓ Different data & information
- ✓ Foreign exchange provision
- ✓ Directives and guidelines
- ✓ Financial business license
- ✓ Supervisory/inspection report
- ✓ Enforcement/supervisory intervention
- ✓ Monetary and financial sector development reports and publications
- ✓ Financial stability report

## **2.6 Regulatory capital**

Capital adequacy and use of regulatory capital are monitored by management employing techniques based on the guidelines developed by the National Bank of Ethiopia for supervisory purposes. The required information is filed with the National Bank of Ethiopia on a monthly basis.

With effect from 19 September 2011, the National Bank of Ethiopia requires that:

- a) The minimum paid up capital required to obtain a banking business license shall be Birr 500 million, which shall be fully paid in cash and deposited in a bank in the name and to the account of the bank under establishment. For existing banks, whose paid up capital is below Birr 500 million shall raise their paid-up capital to the said amount by June 30, 2016
- b) The bank at a minimum maintains a capital to risk weighted assets ratio of 8% at all times. The bank is also required to maintain a legal reserve which is a statutory reserve to which no less

25% of the net profits after taxation shall be transferred each year until such fund is equal to the capital. When the legal reserve account equals the capital of the bank, the amount to be transferred to the legal reserve account shall be 10% percent of the annual net profit. The bank had met all the above requirements by the National Bank of Ethiopia as at 30 June 2015 and 30 June 2014. The makeup of the bank's capital is as presented in the statement of changes in equity.

## **2.7 Empirical Literature Review**

Profitability of the banking sector is a subject that has received a lot of attention in recent years. However a fewer studies have looked at bank performance in developing economies as well as in Ethiopia. Using bank level data for 80 developing countries in the 1988–95 periods, Demirgüç-Kunt and Huizinga (1998) analyze how bank characteristics and the overall banking environment affect both interest rate margins and bank returns. In considering both measures, this study provides a decomposition of the income effects of a number of determinants that affect depositor and borrower behavior, as opposed to that of shareholders. Results suggest that macroeconomic and regulatory conditions have a pronounced impact on margins and profitability.

Using accounting decompositions, as well as panel regressions, Al-Haschimi (2007) studies the determinants of bank net interest rate margins in 10 Sub-Sahara African (SSA) countries. He finds that credit risk and operating inefficiencies (which signal market power) explain most of the variation in net interest margins across the region. Macroeconomic risk has only limited effects on net interest margins in the study.

Using 389 banks data from 41 SSA countries to study the determinants of bank profitability Flamini, et al. (2009) find that apart from credit risk, higher returns on assets are associated with larger bank size, activity diversification, and private ownership. Bank returns are affected by macroeconomic variables, suggesting that macroeconomic policies that promote low inflation and stable output growth do boost credit expansion. The results also indicate moderate persistence in profitability. Causation in the Granger sense from returns on assets to capital occurs with a considerable lag, implying that high returns are not immediately retained in the form of equity increases. Thus, the paper gives some support to a policy of imposing higher capital requirements in the region in order to strengthen financial stability.

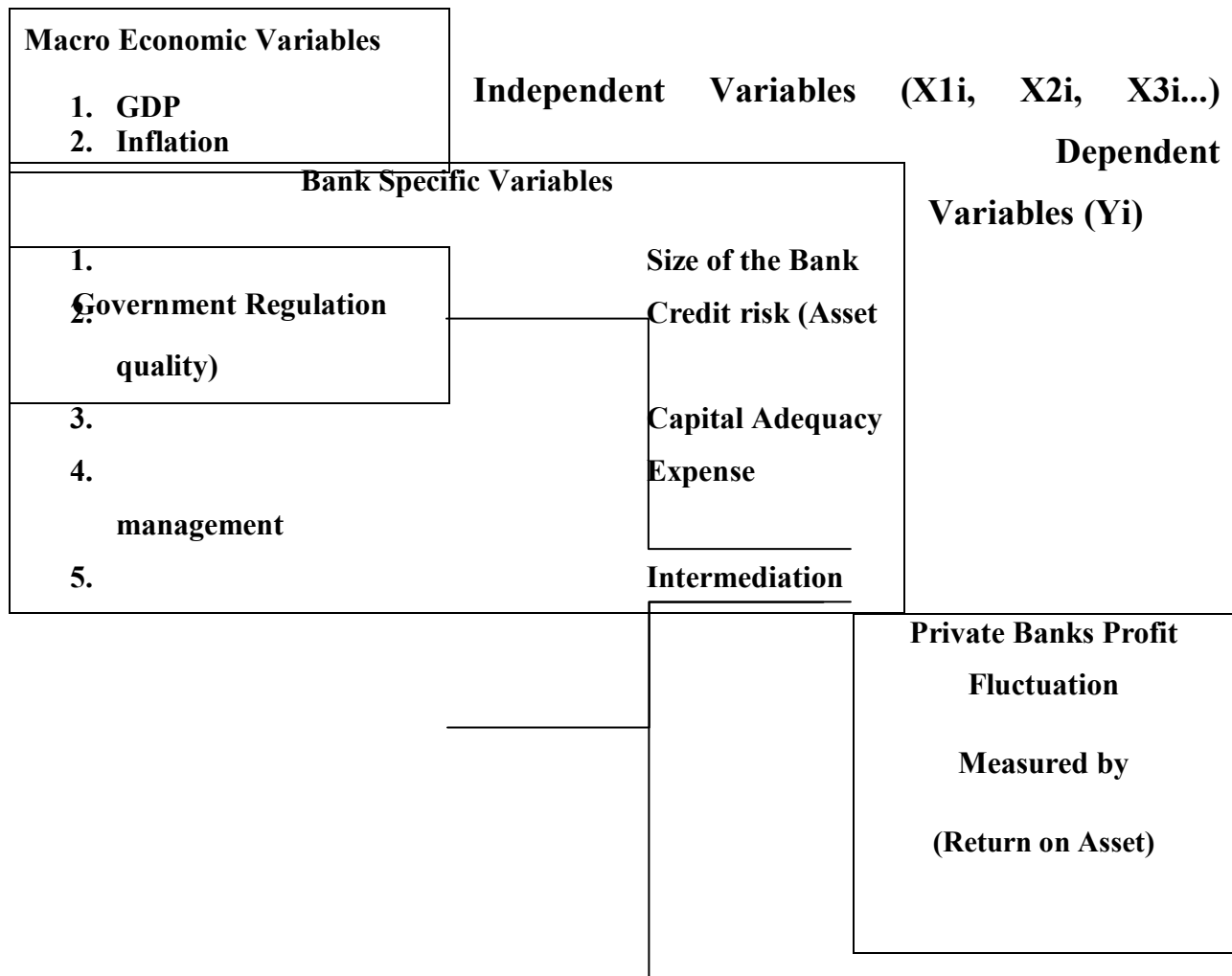
## **2.8 Studies in Ethiopia**

Using the standard static as well as dynamic models, Yigremachew (2008) tries to find systematic evidence on the determining factors for the corporate profitability of private commercial banks in Ethiopia. The study utilizes data on balance sheet as well as income statement account items of all the domestic private banks, which have at least been operational since 1999/00 fiscal year. In effect six private commercial banks have been included in his survey. All in all, the study results indicate that interest and non-interest income and interest expense are the main determining factor for the profitability of private banks in Ethiopia. It also indicated that fixed asset investment, capital adequacy ratio and employees' productivity have significant role on private bank's profitability where macroeconomic conditions such as inflation and tax have significant unfavorable impact on operational performance of private banks.

Negussie (2012) investigates determinants of private commercial banks profitability in Ethiopia by using panel data of seven private commercial banks from year 2002 to 2011. The study used quantitative research approach and secondary financial data are analyzed by using multiple linear regressions models for the three bank profitability measures; Return on Asset (ROA), Return on Equity (ROE), and Net Interest Margin (NIM). Beside this the study used primary data analysis to solicit managers perception towards the determinants of private commercial banks profitability. The empirical results shows that bank specific factors; capital adequacy, managerial efficiency, bank size and macro-economic factors; level of GDP, and regulation have a strong influence on the profitability of private commercial banks in Ethiopia.

## **2.9 Conceptual Framework**

Conceptually the research assumes that dependent variable which is banks profit fluctuation, measure by Return on Asset and Return on Equity, is influenced by macro and Bank specific factors. The impact of those factors specifically to an individual firm is the main concern of this research.



## **Figure 2.1: Schematic Diagram of Conceptual model**

The above figure shows specific to our research objective which is to investigate the major causes of profit fluctuation in private banking industry; we tested our hypothesis using the above conceptual models which are

Bank specific (micro Economic) factor like Bank size, Capital Adequacy, Asset Quality, Expense Management, Intermediation have effect on Profit fluctuation. (H1).

Private Banks profit in Ethiopia is influence by macro economic variables ( Real GDP growth and Inflation Rate) (H2).

Unfavorable regulations of the government against private banks are the major causes of private banks profit fluctuation. (H3).

## **Chapter Three:- Research Methodology**

The purpose of this research is to identify the major variables that cause profit fluctuation in Ethiopian private banks. This section explains the research design and methodology that has been employed to achieve this objective.

### **3.1 Research Design**

The research used quantitative as well as quantitative research method by using time series and cross sectional financial data of each six banks for the last ten years from secondary sources mainly from the annual reports of each bank, over the period of 2006 to 2015. The researcher used pooled data, which has an element of both time series and cross sectional data, because for each year the researcher has six observations as those six banks financial information used in our analysis.

#### **3.1.1 Qualitative approach**

To strength the qualitative nature of the cause of the problem the researcher use questioner to investigate the response of higher level managers, including branch managers. The dependent

variable, private banks profit fluctuation, is influenced by not only those variables which can be quantify but also variables that are essentially qualitative or nominal in nature. Such factors are suppose to be government regulations regarding private banks business, number of years that the bank operates in the industry and political stability for the country. Since such variables usually indicate the presence or absence of a quality or an attribute they are essentially nominal scale variables. In this research the researcher try to quantify one of our qualitative attributes i.e. government regulation by using qualitative data. The political stability of the country is beyond the research scope as such factors may totally distract the industry and for this purpose the researcher assume the model under normal circumstance.

### **3.1.2 Quantitative approaches**

The researcher use time series financial data for the last ten years from secondary sources, mainly from the annual reports of the sample banks, over the period of 2006 to 2015. The study use balance sheet and income statement figures by focusing on Banks total asset, equity capital, provision for loan, interest expense, operational expense, non interest income, total operational income, total loan and advance as internal factors of profit fluctuation for banks. On the other hand for the external factors, data on real GDP and inflation rate over the period 2006 to 2015 has taken.

## **3.2 Empirical Model**

The research has applied econometrics model. Econometrics model may be defined as the quantitative model which analysis of actual economic phenomena based on the concurrent development of theory and observation, related by appropriate methods of inference (Gujarati, 2004). Econometric model use because it provides the researcher numerical measure of the relationship between the dependent and independent(s) variables; hence it used to test our hypothesis regarding how those independent variables affect profit fluctuation of Ethiopian private commercial Banks.

### **3.2.1 Dependent variable**

The dependent variable is private banks profit fluctuation. Following the literature ROE and ROA are commonly used banks profitability measures. ROA, which measures how efficiently a bank being run or how effectively a bank has utilized its existing total asset to earn income, is the ratio of net profit after tax to total asset is used as dependent variable in this study.

### 3.2.2 Independent Variables

Specific to the research objective which is to examine the cause of profit fluctuation in Ethiopian private Banks, the researcher have taken the micro and macro variables (such as Size of the Bank, Capital Adequacy, Credit Risk, Expense Management, Intermediation, Economic Growth and Inflation Rate) as independent variables.

#### ❖ **Bank specific or internal factors of banks profit fluctuation**

Banks specific variables include banks size, capital employment, credit risk, expense management and financial intermediation.

**a. The size of the bank** is included as a independent variable to account for size related economies and diseconomies of scale. Financial intermediation theory predicts the efficiency benefits related to bank's size, due to economic of scale. This could imply lower cost for larger banks that they may retain as higher profits if they do not operate in a very competitive environment (Flamini, Mcdonal & Schumacher,2009) . Guru, Staunton & Balashanmugam (2000) suggest that large banks have grater loans and greater product diversification and accessibility to asset markets, which may not be available for smaller banks. Thus we expect a positive sign for this variable & the researcher use total asset as a proxy measure (**Mohammad and Saad, 2011**).

**b. The second variable is capital.** Capital plays a vital role in supporting safety and soundness of banks (Flamini, Mcdonal & Schumacher, 2009). Banks with high capital to assets ratio could be considered relatively safer in the event of loss or liquidation. Guru, Staunton & Balashanmugam (2000) indicated that capital adequacy requirement would increase the capital assets ratio and thus reduce the risk. This may induce banks to absorb more risk in their investment in the hope of maximizing return. Moreover, Naceur and Goaied (2001) suggest that the higher capital to assets ratio, the lower the need for external financing and therefore, higher profitability. The researcher uses the ratio of equity capital to assets as a proxy of bank capital and we expect positive relation.

**c. The third variable is Credit risk** which is the ratio of nonperforming loans to total loan and advance. It has the first rank among the many banking risks as it is the major source of loss for banks. An increasing of credit risk is normally associated with decreased bank profitability. Hence, banks improve profitability by minimizing the credit risk level through improving their

appropriate lending policies (Al- Smadi, 2011). The researcher measure credit risk using the ratio of provision for loans & advances to total loans and negative sign for this variable is expected.

**d. Expenses management** is one of the significant determinants of banks' performance. Naifer (2010) suggests that the higher the expenses management the less efficient the bank, which could affect bank profit negatively the researcher use the ratio of operating cost/non-interest expense/ to non interest income as a proxy for expenses management and expect negatively relate.

**e. Intermediation:** - The important function of banks is financial intermediation which is the process of indirect finance where by banks link lenders or savers and borrowers or spenders (Mishkin, 2004). Bank loans are expected to be the main source of income and are expected to have a positive impact on bank performance. Other things constant, the more deposits are transformed into loans, the higher the interest margin and profits (Kassie, 2011). The researcher use ratio of Bank's loans and advances to total asset as a proxy for measure of financial intermediation and we expect positively relation.

#### ❖ **External (macroeconomic) factors for private banks profit fluctuation**

Most literatures support the impact of the macroeconomic factors like economic growth of the country, political instability, inflation, interest rate and other government regulations have impact on banks performance. Two macroeconomic variables have been used in this research which is real GDP growth and inflation.

**f. Economic growth:** - has affected the performance of banks. Literatures support the positive impact of economic growth to banks performance. For instance the trend of GDP affects the demand for banks asset. During boom the demand for credit is high compared to recession (Athanasoglou, Brissimis & Delis, 2005). Athanasoglou, Brissimis and Delis (2008) indicated that during economic slowdowns, lending could decrease and credit quality deteriorate, and thus reducing bank profit. While, during economic booms, demand for credit could increase and the interest margin may widen. Therefore, revenues could grow leading to increase profit. The researcher use GDP growth to measure economic growth. A positive sign is expected to this variable.

**g. Inflation:** - Flamini, Mcdonal & Schumacher (2009) suggest that the extent to which inflation (which can be measure as the rate of change of consumer’s price index) affects banks profitability depends on whether future movements of inflation are anticipated or unanticipated. If the inflation anticipated and banks adjust their lending rates accordingly, it resulting in revenue, then it may have a positive impact on profitability, while an unanticipated change could raise costs due to imperfect interest rate adjustment. Moreover Tesfye (2014) study in Ethiopian banking industry shows that inflation has positive and significant driver of profitability and therefore the researcher expect inflation has positive impact of profitability. Therefore to quantify the relationship exist between the dependent and independent variable the following regression models have been used.

### **3.2.3 Control Variables**

The financial performances of a bank are determined by a broader range of strategic and competitive factors. To isolate the cause of profit fluctuation in Ethiopian private Banks, it is necessary to control the other variables which used in literature as possible determinants of banks' profitability. To focus on the major factors of profitability and their impact on profit fluctuation.

## **3.3 Population, Sampling Technique and Sample Size**

### **3.3.1 Target Population**

A population is the total collection of elements about which the researcher makes some inferences. The collection of all possible observations of a specified characteristic of interest is called a population while a collection of observations representing only a portion of the population is called a sample. The target population of the study is the banking sector in Ethiopia. The target populations for this study are six private commercial banks that were registered by NBE and operational in the country. Currently, the country has sixteen private commercial banks licensed and registered by the NBE.

**Table 3.1: List of private commercial banks in Ethiopia**

<b>No.</b>	<b>Name of Banks</b>	<b>Year of Establishment</b>
1	Awash International Banks	1994 E.C
2	Dashen Bank	1995 E.C

3	Bank of Abyssinia	1996 E.C
4	Wagagen Bank	1997 E.C
5	United Bank	1998 E.C
6	Nib International Bank	1999 E.C
7	Cooperative Bank of Oromia	2004 G.C
8	Lion International Bank	2006 G.C
9	Zemen Bank	2008 G.C
10	Oromia International Bank	2008 G.C
11	Buna International Bank	2009 G.C
12	Berhan International Bank	2009 G.C
13	Abay Bank S.C	2010 G.C
14	Addis International Bank S.C	2011 G.C
15	Dehub Global Bank S.C	2012 G.C
16	Enat Bank	2012 G.C

Source: National Bank of Ethiopia

### 3.3.2 Sampling Design and Size

The sampling technique selected for this research is purposive sampling. Particularly, the researcher used criterion sampling in which the banks service year is set as criteria and all private commercial banks that meet this criterion are selected as a sample. From all private commercial banks listed by NBE, sample of the below listed six banks that has been in business before 2004 are drawn based on the above criterion. The major limitation of purposive sampling is making description rather than generalization (Dawson 2002). The researcher considers that the sample size is sufficient to make sound conclusion about the population as far as it covers around 40% of the total population. Moreover, the big portion profit of private commercial banks is found in the banks selected as sample i.e. banks established before 2004 G.C.

Out of sixteen private commercial banks operation in Ethiopia six private banks which are Dashen Bank, Awash International Bank, Bank of Abyssinia, Wegagen Bank, United Bank and Nib International Bank are taken as a sample. For each sample bank self administration questioners are used to get the opinion of 60 managerial level employees.

### 3.4 Data collection instruments

The researcher used published and unpublished financial data for the last ten year from secondary source mainly from annual reports of each bank. This is because it is impossible to conduct a new survey that can adequately capture the past record other than financial reports.

Particularly in quantitative data, secondary data analysis saves time and it provides large and higher- quality databases that would be unfeasible for any individual researcher to collect on their own (Kithari, 2004). The researcher collected the financial figures of each bank from banks website and physically visiting NBE as well as each bank's library. Regarding the macroeconomic data the researcher contacted NBE and MOFED offices. Hence for this quantitative research non-human instrument, documents have been used as the data gathering tool using standardize format prepared for this purpose. The researcher also used primary or qualitative data's from questioner collect from Banks higher level managers, executive managers and assistance branch managers.

### **3.5 Data Analysis**

First, the researcher collected the needed data from national bank of Ethiopia, Ministry of Finance and Economic Cooperation and private commercial banks library according to the description set. After that, collected data was rearranged, edited and calculated in order to become complete data that is needed for this study. Next, the collected panel data was analyzed using descriptive statistics, and multiple linear regression analysis. The descriptive statistics (Mean, maximum and minimum values and standard deviations) was used to analyze the general trends of the data from 2006 to 2015. A multiple linear regression model was used to determine the relative importance of each independent variable in explaining the variation of ROA in Ethiopian private commercial banks. The multiple linear regressions model was conducted by the ordinary listing square (OLS) method using EVIEWS 9 econometric software package. Also, the collected data are tasted using taste of Normality, Durbin Watson Test of Serial Correlation, Test of Heteroskedasticity, Multicollinearity autocorrelation so as to achieve the objectives of our study as well as answer the research question and Hypotheses.

### **3.6 Model Specification**

The researcher use econometric methodology. Econometrics may be defined as the quantitative analysis of actual economic phenomena based on the concurrent development of theory and observation, related by appropriate methods of inference (Gujarati,2004). Econometric model use because it provides numerical measure of the relationship between the dependent and independent(s) variables; hence it show how much the dependent variable will go up or down as

a result of a certain change in the independent variable(s) which help the researcher to identify the major factors that influence the dependent variable.

The Regression analysis was conducted in accordance with “Cross Section Fixed Effects” method. Data for this research does not represent population data for whole period. It means that we can use Fixed Effects specification in panel options. In the study, regression model using Eviews 9 software program was conducted.

$$ROA_{it} = \beta_0 + \beta_1 \log BSIZ_{it} + \beta_2 CAR_{it} + \beta_3 CRR_{it} + \beta_4 EXM_{it} + \beta_5 INTR_{it} + \beta_6 RGDPG_{it} + \beta_7 INF_{it} + \varepsilon_{it} \dots \dots \dots (1)$$

Where; - Dependent variables are ROA (return on asset for bank i at time t)

ROA<sub>it</sub> (Return on asset of bank i at time t) = Ratio of Net Profit After tax to Total asset &

$\varepsilon_{it}$  = the disturbance term (such as political instability)

$\beta_0$  is the intercept and  $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6$  and  $\beta_7$  are slop coefficients.

No.	Determinates of Banks profitability (Independent variables)	Measure	expected outcome	Represented by
1	The size of the bank	Logarithm of Total asset	+	LogBSIZ
2	Capital adequacy (capital strength)	Total Equity capital to total asset	+	CAR
3	Credit risk(asset quality)	Ratio of Provision of loan & advance to Total loan &	-	CRR

		Advance		
4	Expense management	Noninterest expense to Non interest income	-	EXM
5	Intermediation	Ratio of total loan & advance to total asset	+	INTR
6	Economic growth	Real GDP growth rate	+	RGDPG
7	Inflation	Rate of change in customer price Index	+	INF

Table 3.1:- Determinants of Banks profitability.

## **CHAPTER FOUR:- Research Findings**

The study analyzes the cause of the selected variables on the profit fluctuation of commercial banks in Ethiopia. This chapter deals with the result of both descriptive and inferential statistics in analyzing the data. The primary data are collected from questioners and secondary data of each bank are taken from official published reports and entered in to a computer.

### **4.1 Analysis of the questionnaires**

The study used the frequency distribution output from excel calculation by the researcher to analyze questionnaires. The respondent is selected randomly by the researcher considering

availability and place and the head office and each bank top level branches are selected as a sample. There are 60 questionnaires analyzed through excel. Accordingly, the result of the frequency distribution as displayed by the researcher is mentioned and interpreted as follows.

#### 4.1.1 The frequency distribution

**Table 4.1: The frequency distribution for gender of the respondents**

	Frequency	Percent	Cumulative Percent
Female	11	18,4	18,4
Male	49	81,6	100,0
Total	60	100,0	

From the total number of the respondents 18.4%(11) of the respondents are female respondents and the other 81,6%(49) are male respondents.

**Table 4.2: The frequency distribution for age of the Respondents**

	Frequency	Percent	Cumulative Percent
Below 25	0	0	0
26-35	18	30.0	30.0
36-45	22	36.7	66.7
46 and above	20	33.3	100.0
Total	60	100.0	

From the total number of the respondents 0%(0) of the respondents are below 25 years old, 30%(18) of them are 26-35 years old, 36.7%(22) of them are 36-45 years and 33.3%(20) of them are 46 and above.

**Table4.3: Position of the respondents in the Bank**

	Frequency	Percent	Cumulative Percent
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Top level Managers	16	26.6	26.6
Branch Managers	22	36.7	63.3
Ass. Branch Managers	22	36.7	100.0
Total	60	100.0	

From the total number of the respondents 26.6%(16) of the respondents are Top level managers, 36.7%(22) of them are Branch Managers, and 36.7%(22) of them are Assistance Branch Managers. This shows the questioners are equally distribute among top level managers, branch managers and assistance branch managers.

**Table 4.4: Work Experience of the respondents in the bank**

	Frequency	Percent	Cumulative Percent
Below 5 years	0	0	0
6-15 years	19	31.7	31.7
16-25 years	33	55.0	86.7
26 and above Years	8	8.6	100.0
Total	60	100.0	

From the total number of the respondents 0%(0) of the respondents have below 5 years work experience on sample private banks, 31.7%(19) of them have 6-15 years work experience, 55%(33) of them have 16-25 years work experience and the other 8.6%(8) of them have 26 and above work experience in the bank. These result shows that most of the respondent has 16 years and above work experience and the researcher conclude the respondent have good knowledge and understanding about the subject of profit fluctuation.

**Table 4.5: The cause of profit fluctuation**

	Frequency	Percent	Cumulative Percent
Inefficiency of Managements	31	51.7	51.7
Strong rule and regulation of NBE	12	20.0	71.7
Unfavorable infrastructure in banking industry	6	10.0	81.7
Unfavorable rules and regulation apply by the government over private banks	8	13.3	95.0
Other reason	3	5.0	100.0
Total	60	100.0	

From the total number of the respondents 51.7%(31) of the respondents agree that the Inefficiency of Managements can be the main reason for profit fluctuation of private banks, 20.0%(12) of them claims Strong rule and regulation of NBE for profit fluctuation of private banks, 10%(6) of them says that Unfavorable infrastructure in banking industry as a reason for profit fluctuation of private banks, 13.3%(8) of the respondents says that Unfavorable rules and regulation apply by the government over private banks can be a reason and the other 5%(3) of the respondents says that there may be other reason for deposit variation.

**Table 4.6: The frequency distribution of factor that mostly affects profit fluctuation**

	Frequency	Percent	Cumulative Percent
Bank specific factors	31	51.68	51.68
Economic environment of the country	12	20.02	71.7
Unfavorable infrastructure in banking industry	9	15.0	86.7
Strong control of NBE	2	3.3	90.0

Unfavorable rules and regulation apply by the government over private banks	6	10	100.0
Total	60	100.0	

51.68%(31) of the respondents claim bank specific factors are affect profit fluctuation of private banks, 20.02%(12) of them says that Economic environment of the country are responsible for it, 15%(9) of them responds Unfavorable infrastructure in banking industry will have influence on private banks profit fluctuation, 3.3%(2) respondent says that strong control of NBE cause the fluctuations and other 10%(6) of them claim unfavorable rules and regulation apply by the government over private banks has effect on private bank profit fluctuation.

## 4.2 Analysis of Quantitative Data

The researcher used descriptive statistics such as mean, median and standard deviation in order to test the relationship between the variables including regression. The variable tested include Banks Total asset, Ratio of Equity capital to total asset, ratio of provision of loan and advance to total loan and advance, Ratio of non interest expense to non interest income, Ratio of total loan & advance to total asset, Real GDP growth rate and Inflation.

### 4.2.1 Descriptive statistics

Descriptive statistics provide important first look about our data. Before estimating the model, data analysis through descriptive statistics is performed. Table 4.7 show descriptive statistics of variables include mean, median, standard deviation, minimum and maximum.

**Table 4.7: Summary of descriptive statistics of dependent and independent variables**

variables	Observations	Mean	Median	Max	Min	Standard Dev.
ROA	60	2.810699	2.8985	4.020931	0.329366	0.683381
TOT.A	60	9.931492	9.963246	9.863246	9.376391	0.088021
ASS.Q	60	3.245146	2.644718	10.89827	0.100411	1.931134
CAP.AD	60	12.86606	11.89545	19.21772	8.488159	3.203687
EXP.MG	60	81.13326	76.0195	244.2846	30.12124	34.43145
INTE	60	49.0971	45.12027	98.74185	33.21933	11.38576
R.GDP	60	10.67	10.65	13.1	8.6	1.411851
INF.R	60	17.56	10.75	55.2	2.7	15.85651

Source: own computation through Eviews 9

Regarding bank specific independent variables, as stated in the above table, table 4.7, from the total of 60 observations over the sample period of 2006 to 2015, the highest return on Asset percentage was 4.02% and the lowest return on Asset percentage was 0.32%. That means, the most profitable bank of the sample private commercial banks earned 4.02 cents of net income from a single birr of asset and the minimum profit earned by one of the sample banks was a net profit of 0.32 cents on each birr of assets. The mean return on asset percentage of 2.81% showed that, Ethiopian private commercial banks earned 2.81 cents on average for each 1 Birr asset over the sample period.

When we see the independent variables capital adequacy ratio has a mean value closed to 12.87 indicating banks under consideration financed around 13% of their total asset only from owners equity for the last ten years the rest is debt financing in the form of deposit. The credit risk ratio which is the ratio of provision of loan and advance to total credit granted indicate mean value of 3.25%. Hence for the past ten years on average the sample banks have non performing loans with the value of 3.25% of their total loan and advances Std. Error granted for different economic sectors. Regarding the expense management ratio which is the ratio of non interest expense to non interest income, for the last ten years a great variation is observed. The average ratio figure for the last ten years indicate that, around 81% of their income from non interest bearing services is expense while only the rest 19% will contribute for their profit before operational expenses. From this we can notice the cost of providing non interest based services are very high. However the figure has large standard deviation showing there are more efficient banks providing bank services other than loans at lowest cost. The intimidation ratio which is the ratio of total loan & advance to total asset indicate that, the banks under consideration holds around 49% of their total asset in the form of loan and advance. On the other hand, as we can see from the above table the macroeconomic determinants of bank profitability Real GDP growth rate and inflation rate have mean value 10.67 and 17.56 respectively. Hence for the last ten year the real GDP growth rate of Ethiopia was around 11 % whilst the inflation rate was 17% on average.

#### **4.2.2 Correlation Analysis**

The Correlation analysis was done in order to show connections between all the variables. The Correlation matrix is represented in [Table 4.8]. According the correlation analysis we can

determine the relationship between variables among themselves. According to the table of correlation, we can say that there are no strong correlations between variables.

The Bank size, Asset quality, expense management and intimidation are inversely correlated to Dependent Variables (ROA). It means that Banks branch expansion, provision of loan and advance to total loan and advance, non interest expense to non interest income ratio and ratio of total loan to advance to total asset will decrease with changes in profit ratios. It seems that the increase in costs leads a decrease in profit. It can be explained by amount of loan losses. The high amount of uncollectible accounts leads losses in profit. Capital Adequacy is positively related to ROA, it means that increase equity capital leads to increase in profit. Bank size, logarithm of total asset also has negative relation with independent variables (ROA). This indicate Banks branch expansion have negative impact in profit in the short run. Alimshan(2011) found the same outputs of his correlation analysis for all and conventional banks.

**Table 4.8 Correlation Analysis of Variables**

	ROA (1)	TO_A (2)	CA_AD (3)	AS_Q (4)	EX_MG (5)	INTE (6)	R_GDP (7)	INF_R (8)
ROA (1)	1.000	-	-	-	-	-	-	-
TOT_A (2)	-0.024	1.000	-	-	-	-	-	-
CAP_AD (3)	0.417	0.240	1.000	-	-	-	-	-
ASS_Q (4)	-0.162	-0.096	-0.159	1.000	-	-	-	-
EXP_MG (5)	-0.600	0.027	0.106	0.100	1.000	-	-	-
INTE (6)	-0.015	-0.191	-0.170	0.018	0.121	1.000	-	-
R_GDP (7)	0.083	0.059	-0.080	0.126	-0.219	0.009	1.000	-
INF_R (8)	0.001	-0.101	-0.051	0.185	-0.114	-0.172	-0.753	1.000

### 4.3 Fulfillment of regression model assumptions

As mentioned in the methodology part of this study, as far as the assumptions of multiple linear regression model hold true, the coefficient estimators of both a (constant term) and  $\beta$  (independent variables) that are determined by ordinary least square (OLS) will have a number of desirable properties, and usually known as Best Linear Unbiased Estimators (BLUE). Hence, the following sections discuss results of the diagnostic tests (i.e., heteroscedasticity, autocorrelation, multicollinearity, normality and model specification test) that ensure whether the data fits the basic assumptions of classical linear regression model or not.

**4.3.1 Normality:** - the normality assumption, which is for the given X's, the mean value of the disturbance/residual  $\varepsilon$  it is zero, is extremely important for the purposes of hypothesis testing and prediction (Gujarati, 2004). A disturbances/ residuals are the difference between the observed and model-predicted values of the dependent variables. A histogram helps us to check the assumption of normality of the error term. As we can see from figure 4.1, the shape of the histogram approximately follow the shape of the normal curve. This histogram is acceptably close to the normal curve in our mode.

Normality test is used to determine whether the error term is normally distributed. Brooks (2008) noted that the Jarque-Bera statistic would not be significant for disturbance to be normally distributed around the mean. The purpose of the Jarque-Bera test is to make sure that the data set is well-modeled by a normal distribution. The hypothesis for the normality test was formulated as follow:

H0: Error term is normally distributed

H1: Error term is not normally distributed

$\alpha = 0.05$

Decision Rule: Reject H0 if P value of JB less than significant level 0.05. Otherwise, do not reject H0

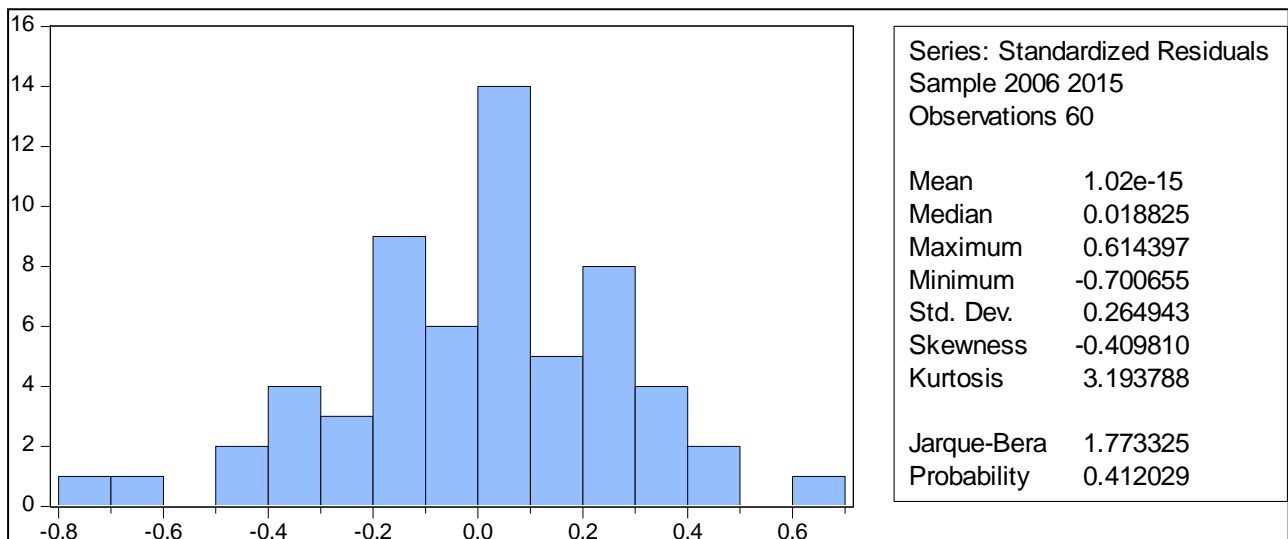
**Table 4.9 Result of Normality Test: Bera-Jarque test**

	Probability (P-value)	Decision Rule
Bera-Jarque test	1.773325	Do not reject the H0

Source: own computation through Eviews9

### Histogram

**Figure 4.1 Distribution of error term for ROA**



**Source: own computation through Eviews9**

The above table 4.9 and figure 4.1 indicated that distribution of the panel observation is symmetric about its mean. The Jarque-Bera statistic has a P-value of 1.77 implies that the p-value for the Jarque-Bera test is greater than 0.05 which indicates that there was no evidence for the presence of abnormality in the data. Thus, the null hypothesis that the data is normally distributed should not be rejected since the p-value was considerably in excess of 0.05.

**4.3.2 Autocorrelation:** - The second major assumption of linear regression model is no autocorrelation between the disturbance terms or the correlation among disturbance term is zero. Hence if the problem exist small changes in the data values may lead to large change in the estimates of coefficients. It is assumed that the distribution errors are uncorrelated with one another and that the errors are linearly independent of one another. Autocorrelation error occurs when there is a serial correlation between residuals and their own past values. In this study, BreuschGodfrey Serial Correlation LM Test is used to carry out the autocorrelation test. The p-value is obtained to examine whether the autocorrelation problem occurs in the model. If the p-value is more than 5% significant level, it implies that there is no autocorrelation problem in the model.

The hypothesis for the model specification test was formulated as follow;

H0: There is no autocorrelation problem.

H1: There is autocorrelation problem.

$\alpha = 0.05$

Decision Rule: Reject H0 if P value of JB less than significant level 0.05. Otherwise, do not reject H0

**Table 4.10 Result of Autocorrelation Test: BreuschGodfrey Serial Correlation LM Test**

	P-Value	Decision Rule
Breusch-Godfrey	0.2969	Do not reject the H0
Serial Correlation LM Test		

**Source: own computation through Eviews9**

From table 4.10, it can be concluded that this research do not reject null hypothesis (H0), since the p value is 0.2969, which is greater than significance level of 0.05. Thus, it can be concluded that the model does not consists of autocorrelation problem.

**4.3.3 Heteroskedasticity Test:-** When the scatter of the errors is different, varying depending on the value of one or more of the independent variables, the error terms are heteroskedastic Brooks (2008). Heteroscedasticity test is very important because if the model consists of heteroskedasticity problem, the OLS estimators are no longer BEST and error variances are incorrect, therefore the hypothesis testing, standard error and confident level will be invalid. . A white’ test has been made, to ensure that this assumption is no longer violated. The hypothesis for the heteroskedasticity test was formulated as follow;

Ho: there is no homoskedasticity problem.

H1: There homoskedasticity problem.

$\alpha = 0.05$

Decision Rule: Reject H0 if P value of JB less than significant level 0.05. Otherwise, do not reject H0

**Table 4.11 Result of Heteroskedasticity Test: white**

White Test	P-Value	Decision Rule
F-statistic	0.4823	Do not reject the HO
Obs*R-squared	0.4547	Do not reject the HO
Scaled explained SS	0.0607	Do not reject the HO

**Source: own computation through Eviews9**

As shown in table 4.11, all versions of the white test statistic (F-statistic, Chi-Square and Scaled explained SS) gave the same conclusion that there was no evidence for the presence of heteroscedasticity in this particular study. Since the p-values of 0.4823, 0.4547 and 0.0607 for F-statistic, Chi-Square and Scaled explained SS respectively were in excess of 0.05, the null hypothesis should not be rejected.

**4.3.4 Multicollinearity:-** According to Brooks (2008), multicollinearity will occur if some or all of the independent variables are highly correlated with one another. It shows the regression model has difficulty in explaining which independent variables are affecting the dependent variable. If multicollinearity problem is too serious in a model, either additional important

variable should be added or unimportant independent variable should be dropped. This study uses high pair-wise correlation coefficients method to detect the existence of multicollinearity high pair-wise correlation coefficients method see the correlation of independent variables between each other one by one. According to Gujarati (2004), if the correlation coefficient is higher than 0.8, it is considered as the model consists of serious multicollinearity problem.

**Table 4.12, Results of multicollinearity Test: High Pair-Wise Correlation Coefficients**

	TOT_A	CAP_AD	ASS_Q	EXP_MG	INTE	R_GDP	INF_R
TOT_A	1.000000	0.240442	-0.096290	0.027382	-0.19129726	0.05938864	-0.1007948
CAP_AD	0.240442	1.000000	-0.158570	0.106236	-0.16950132	-0.08024491	-0.0512908
ASS_Q	-0.096290	-0.158570	1.000000	0.099523	0.01767776	0.12608548	0.1851157
EXP_MG	0.027382	0.106236	0.099523	1.000000	0.12087754	-0.21887600	-0.1135250
INTE	-0.191300	-0.169500	0.017678	0.120878	1.00000000	0.00891804	-0.1715428
R_GDP	0.059389	-0.080240	0.126085	-0.218880	0.00891804	1.00000000	-0.1529423
INF_R	-0.100790	-0.051290	0.185116	-0.113530	-0.17154284	-0.15294230	1.0000000

**Source: own computation through Eviews9**

Table 4.12, showed that there is no strong pair-wise correlation between the explanatory variables (TOT.A, CAP.AD, ASS.Q, EXP.MG, INTE, R.GDP and INF.R). As a rule of thumb, inter-correlation among the independent variables above 0.80 signals a possible multicollinearity problem. In this study the highest correlation coefficient is 0.240442 between gross Total asset and capital adequacy. Thus, it can be concluded that almost all variables have low correlation power which implies no multicollinearity problem in the explanatory variables selected to determine non-performing loans of private commercial banks.

**4.3.5 Model Specification:-** Model specification error occurs when omitting a relevant independent variable, including unnecessary variable or choosing the wrong functional form. When the omitted variable is correlated with the variable which included, the estimators will be biased and inconsistent and model specification error will tends to occur. If the omitted variable is not correlated with the included variable, the estimators are unbiased and consistent and model specification error will not occur. Therefore, in order to select a correct estimated model, the researcher had carry out the Ramsey-RESET Test to check on the model specification. The hypothesis for the model specification test was formulated as follow;

Ho: the model specification is correct.

H1: the model specification is not correct.

$\alpha = 0.05$

Decision Rule: Reject H0 if P value of JB less than significant level 0.05. Otherwise, do not reject H0

**Table 4.13, Result of model specification Test: Ramsey-RESET test**

	Test statistic value	Decision Rule
Ramsey RESET Test	Prob. F test = 0.5731	Do not reject the H0

**Source: own computation through Eviews9**

From table 4.13, it can be concluded that this research do not reject null hypothesis (H0), since the p-value is 0.5731, which is greater than significance level of 0.05. Thus, it can be concluded that the model specification is correct from year 2006 to 2015. Overall reliability and validity of the model was enhanced further by the Prob (F-statistic) value of 0.000000.

#### **4.4 Regression Analysis**

In this part the researcher introduce empirical results which are created to explain how the changes in explanatory variables influence the dependent variables. We estimated regression analyses for the determinants of profit fluctuation. In this research, we have estimated only General Model, because only Government regulation was chosen as explanatory macroeconomic variable.

The empirical evidence on the factors that cause Ethiopian private commercial banks profit fluctuation is studied based on balanced panel data, where all the variables are observed for each cross-section and each time period. The study has a time series segment spanning from the period 2006 up to 2015 and a cross section segment which considered six private commercial banks, namely, Awash International Bank, Dashen Bank, Bank of Abyssinia, Wegagen Bank, United Bank and Nib International Bank. To test the relationship between dependent and independent variables that cause private commercial banks profit fluctuation variables the following linear regression model is developed.

$$ROA_{it} = \beta_0 + \beta_1BSIZ_{it} + \beta_2CAR_{it} + \beta_3CRR_{it} + \beta_4EXM_{it} + \beta_5INTR_{it} + \beta_6RGDPG_{it} + \beta_7INFI_{it} + \varepsilon$$

**Equation:** shows that independent variables return on asset is depends on (endogenous variables) bank size measured by natural Banks TA ,capital adequacy measured by equity capital to total asset, expense management measured by the ratio of non interest expense to none interest income, asset quality measured by Provision to total loan and advance ratio, Intermediation measured by the ratio of total loan and advance to total asset ratio, all for i bank at time t , and exogenous variables the Real GDP growth rate and inflation rate for Ethiopia at time t.  $\varepsilon$  is the disturbance term for year i. The definition of all individual variables included in the above equation is discussed in the methodology part of the study.

Table 4.14 showed the empirical result tested by Ordinary Least Square (OLS) from E-views software. The R-squared of this model is 0.859693, which means that 85% of the total variation of Ethiopian private commercial banks profit fluctuation is explained by the total variation of Banks TA ,capital adequacy measured by equity capital to total asset, expense management measured by the ratio of non interest expense to none interest income, asset quality measured by Provision to total loan and advance ratio, Intermediation measured by the ratio of total loan and advance to total asset ratio and exogenous variables the Real GDP growth rate and inflation rate. Whereas, the adjusted R-squared is 0.822638, which means that 82% of the total variation of Ethiopian private commercial banks profit fluctuation is explained by the logarithm of TA, capital adequacy, expense management, asset quality, Intermediation, Real GDP growth and inflation rate. Although, the remaining 15% and 18% of the change is explained by other factors which are not included in this study model, both the R-squared and the Adjusted R-squared values in this study are found to be sufficient enough to infer that the fitted regression line is very close to all of the data points taken together (has more explanatory power). For panel data, R-Squared greater than 20% is still large enough for reliable conclusions (Cameron Trivedi, 2009; Hsiao, 2007, cited in Nyamsogoro, 2010).

**Table 4.14: Regression Analysis for banks**

**Dependent Variable: ROA**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
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C	7.921155	4.562124	1.736287	0.0887
TOT_A	-0.216181	0.49567	-0.92344	0.0036
CAP_AD	0.084933	0.012875	6.596821	0.0000
ASS_Q	-0.024778	0.024445	-1.013598	0.3157
EXP_MG	-0.014318	0.001347	-10.62968	0.0000
INTE	0.006103	0.003574	1.707436	0.0939
R_GDP	0.08441	0.055933	1.509126	0.1376
INF_R	-0.000619	0.005162	-0.119856	0.9051
D212	-2.400646	0.305949	-7.846551	0.0000
D509	-1.293618	0.318055	-4.067276	0.0002
R-squared	0.859693	Mean dependent var	2.810699	
Adjusted R-squared	0.822638	S.D. dependent var	0.683381	
S.E. of regression	0.287802	Akaike info criterion	0.497922	
Sum squared resid	4.141492	Schwarz criterion	0.846979	
Log likelihood	-4.937662	Hannan-Quinn criter.	0.634458	
F-statistic	31.40589	Durbin-Watson stat	1.444246	
Prob(F-statistic)	0.00000			

**Source: The table is formed by using the results of Eviews9**

The dependent variable being regressed is profit fluctuation of Ethiopian Private Banks which is measured by ROA. Bank specific variables (capital adequacy ratio, expense management ratio and intimidation) are found to be significant repressors of profit fluctuation in private commercial banks of Ethiopia. On the other hand the findings revealed that, there was no significant association among all macroeconomic variables (real GDP and Inflation rate) and logarithm of total asset and asset quality in Ethiopian private commercial banks profit fluctuation. The following section demonstrates the impact of each explanatory variable on Ethiopian private commercial banks profit fluctuation.

Table 4.14 showed impact of Asset Quality ratio on Return on Assets is negative and significant. In our, model Asset Quality is represented by ratio of provision for loan losses to total loans. The high amount of uncollectible accounts leads losses in profit. That is why there is a negative relationship between those variables. This conclusion is consistent with studies of Low Mui Tin and Rubi Ahmad (2010), Kosmidou (2008). Certainly, we can say that a higher level of loan losses leads to bad credit portfolio.

Banks branch expansion which is logarithm of total have negative and significant relation with banks profit fluctuation measured by ROA. The beta coefficient of total asset is -0.436119 are justify that a 1% increase in total asset result a 0.44% decrease of profit measured by ROA.

Expense management ratio is also significant and inversely connected to ROA. Table 4.17, show that the coefficient of expanse management is negative. According to the regression result beta is -0.014318 and is highly significant (0.00000) at 95%. This means that an increase by 1% of expanse will result in 0.014% decrease of profit measured by ROA, holding other variables constant. High level of this ratio shows inefficiency in controlling their general expenses. The negative coefficient indicates a poor cost – benefit ratio.

The E-view result on the above table, table 4.14, showed that the coefficient of gross domestic product (GDP) is positive. According to the regression result beta is 0.08441 and is significant (0.1376) at 95%. This means that an increase by 1% of GDP growth will result in 0.085% increase of profit measured by ROA, holding other variables constant. The justification provided in the empirical literature of positive association between GDP and profit is that higher positive level of real GDP growth habitually entails a higher level of income which improves the capacity of the borrower to pay its debts and contributes to reduce bad debts.

Other independent variables are also available to use in interpretation of Banks profit fluctuation measured by ROA, they are statistically significant and positive coefficient. Capital adequacy ratio which represents banks capital strength and its impact on profit shows statically significant value and positive. This can be for the reason that the higher capital lead banks to have strong bargaining power for determining interest, as the higher capital the lower external financing is needed so, this can decrease interest expense and increase profit.

## **CHAPTER 5: Introduction**

### **Summary, Conclusion and Recommendation**

The previous chapter presented the analysis of the findings and discussions of the study. The purpose of this chapter is to discuss the conclusions and recommendations. Accordingly, the chapter is organized in two sections, the first section presents the conclusions of the study and the second section presents the recommendations provided based on the findings of the study and suggestion for further study.

#### **5.1 Summary**

The objective of this study is to identify what factors because profit fluctuation in Ethiopian Private Banks related to profitability measures of private commercial banks using multiple linier

regression models and primary data in the form of questioners. The model attempts to track empirical nature of the strategic significance of the entire variable suggested by theories and the links to profitability measures (ROA). This study covers 10 private commercial banks which have been operating in Ethiopia banking industry for the last ten years (2006-2015).

The current market financial and credit system requires banks to improve performance to get more profit in increasing trained. Profit is a key parameter for evaluating the financial performance of banks. In this regard, this research conducted an analysis of the influence of certain factors on the private banks fluctuation.

## **5.2 Conclusion**

The regression analyses were made in line with the specific research objectives and stated hypotheses formulated in the study. In doing so, previous studies on profit fluctuation have been reviewed and as per the literature Private commercial banks profit fluctuation usually expressed as a function of internal and external factors. In this study five microeconomic and two macroeconomic factors are include. The internal factors are referring to those which characterized individual banks and usually associated with the specific policy choices of a particular bank. The bank specific factors which are important factors of profit fluctuation are: logarithm of total asset, capital adequacy, asset quality, expense management and intimidation.

On the other hand, the external factors are variables that are not related to the each bank management but reflect the economic environment that can affect the loan quality of banks. The macroeconomic factors which the literature proposes as important factors of profit fluctuation are: annual growth in GDP and the annual inflation rate. The empirical findings of this particular study suggested the following conclusions.

First, among macroeconomic variables, real GDP growth was found to be statistically significant factors of private banks profit fluctuation. The findings suggested that GDP have a significant positive relationship with profit which indicates that the quality of lending by private commercial banks increase during high economic growth. In fact, the result of inflation rate showed a negative relationship with profit fluctuation. However, the association was statistically insignificant since the p-values for inflation is in excess of 5%. Hence, inflation rate is not found to be important factors of private banks profit fluctuation during the sample period of 2006 - 2015.

Second, with respect to the bank specific variables, all variables used in this study i.e., logarithm of total asset, capital adequacy, asset quality, expense management and intimidation were found to be a major factors of private banks profit fluctuation with 5% significance level. The relationship of logarithm of total asset, asset quality, and expense management private banks profit fluctuation is negative.

According to the results we can say that in the models expense management adversely affects the profit of the bank and have major impact on banks profit fluctuation. This means with an increase of this index value of profit decreases. Therefore, it is necessary to review the policy of expenditure management. Nowadays, for banks in Ethiopia ratio of the cost to income is very high. And for the more efficient operation, banks need to cut costs down specially noninterest expense.

We can also say that Asset Quality is negatively related to profit. This means that banks have to pay attention to the Provision for Loan Losses. The high amount of uncollectible accounts leads losses in profit. The number of bad debts negatively affects the profits of the bank has effect for profit fluctuation. Also, there is a positive relationship between capital adequacy and ROA. This can be for the reason higher capital lead banks to have strong bargaining power for determining interest, as the higher capital the lower external financing need and decrease interest expense and increase profit, thus this positively contribute for the fluctuation.

According to the model, Bank size measured on logarithm of total asset have negative correlated with profits. This indicates that Banks branch expansion have negative impact on profit fluctuation.

From qualitative data analysis we understand that managerial staffs of the Banks argue bank specific factor are the major contribution in private banks profit fluctuation. Economic environment of the country, mention in the second place as a factor. In third place unfavorable infrastructure in banking industry is selected. The respondent argue that unfavorable rules and regulation apply by the government over private banks have a very little impact in private banks profit fluctuation. The last item selected by the respondent as a factor that cause profit fluctuation is Strong control of NBE. Considering this we conclude that strong control of NBE has no effect on profit fluctuation.

The study concludes that logarithm of total asset, asset quality, expense management can be used to forecast for profitability among private commercial banks in Ethiopia. The study, therefore,

submits that Ethiopian private commercial banks could improve their expense management by formulating policies around these factors and banks have to pay attention to the Provision for Loan Losses.

### **5.3 Recommendation**

The banking system is the most important segment of a country financial system. Ethiopian private commercial banks should continue to exploit the merit of expense management as a tool to increase their earning power and increase their profit trained time to time as well as to improve their day to day activities. It is important to evaluate the impact of some factors in the performance of Ethiopian banking industry and identify factors that cause profit fluctuation in Ethiopian private Banks. Ethiopian business behavior and attitude are changing rapidly now a days following stiff competition. The study shows they should focus to minimize cost of branch expansion, improve expense management and asset quality of the Bank.

Thus, the management of the bank should pay particular attention to such factors as interest income, provision for doubtful loan, the cost structure, the ratio of own and borrowed funds and the amount of loan. Since the management of these factors could have a significant role in constantly increasing trend of bank profit.

Perspectives of development of the banking sector in our county in the years seem to look optimistic. This will contribute to the overall macroeconomic stability and strengthening of banking industry in Ethiopia.

### **5.4 Suggestion for Further Research**

This research didn't find the significant relation between Government regulation with ROA. It can be use other research work to find better results. Our regression model didn't discover the consequences of Government regulation on banks profit fluctuation as our model identify nether negative or positives statistically significant relation. For this reason further investigation is needed to see the effect using time lag variable. Furthermore future research should concentrate on including all regulatory bodies in the country and Banks and incorporate banks president as well as vice presidents interview and collect their justification for the impact of Government regulation and guide lines on the profit of the Bank and its fluctuation.

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## Appendices

### Appendix –I: Tests for the Heteroskedasticity Test: White

Heteroskedasticity Test: White

F-statistic	0.94265	Prob. F(7,52)	0.4823
Obs*R-squared	6.756361	Prob. Chi-Square(7)	0.4547
Scaled explained SS	25.35959	Prob. Chi-Square(7)	0.0007

Test Equation:

Dependent Variable: RESID^2  
 Method: Least Squares  
 Date: 01/15/17 Time: 17:00  
 Sample: 1 60  
 Included observations: 60

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.064329	4.342126	-0.705721	0.4835
TOT_A	0.039142	0.044161	0.886357	0.3795
CAP_AD	-0.001516	0.000846	-1.791799	0.079
ASS_Q	-0.00412	0.004533	-0.908868	0.3676
EXP_MG	-1.89E-06	1.10E-05	-0.172281	0.8639
INTE	-3.71E-06	5.76E-05	-0.064425	0.9489
R_GD	-0.002086	0.003764	-0.554251	0.5818
INF_R	7.00E-05	0.000134	0.522308	0.6037
R-squared	0.112606	Mean dependent var		0.167901
Adjusted R-squared	-0.006851	S.D. dependent var		0.535279
S.E. of regression	0.53711	Akaike info criterion		1.718336
Sum squared resid	15.0013	Schwarz criterion		1.997582
Log likelihood	-43.55009	Hannan-Quinn criter.		1.827565
F-statistic	0.94265	Durbin-Watson stat		2.05737
Prob(F-statistic)	0.482299			

## Appendix –II: Tests for the autocorrelation: Breusch-Godfrey

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	1.244508	Prob. F(2,50)	0.2969
Obs*R-squared	2.845185	Prob. Chi-Square(2)	0.2411

Test Equation:

Dependent Variable: RESID  
 Method: Least Squares  
 Date: 01/15/17 Time: 16:35  
 Sample: 1 60  
 Included observations: 60  
 Pre-sample missing value lagged residuals set to zero.

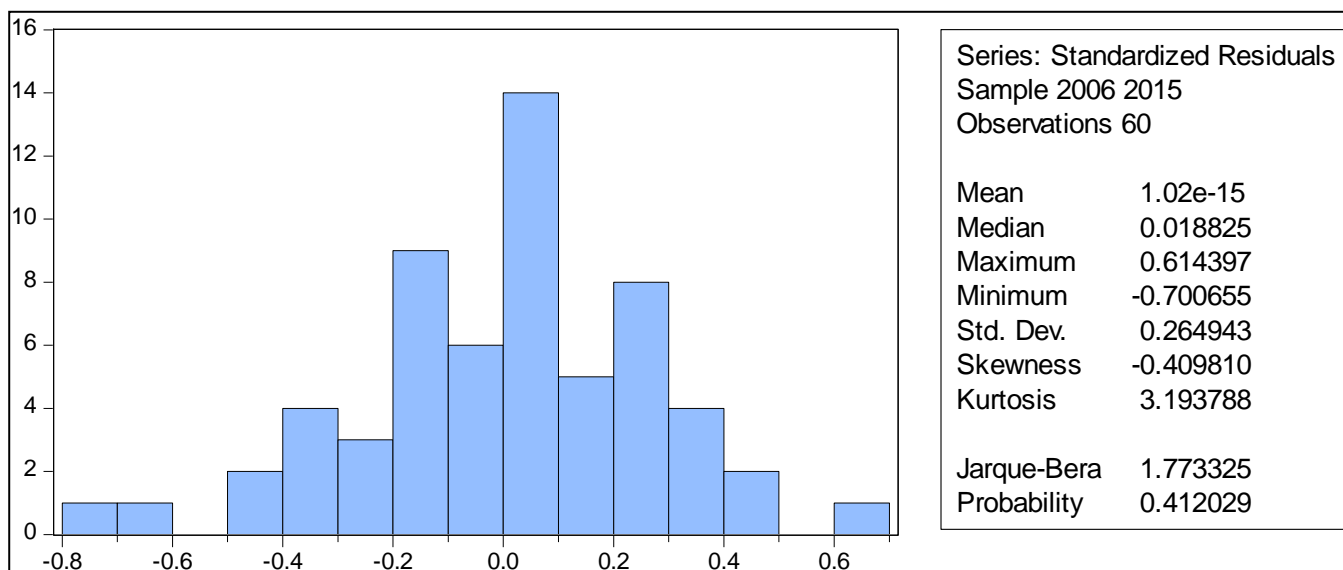
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.383759	6.902717	-0.055595	0.9559
TOT_A	0.011787	0.690128	0.017079	0.9864
CAP_AD	-0.000867	0.019012	-0.045587	0.9638
ASS_Q	0.001048	0.036349	0.028821	0.9771
EXP_MG	0.000339	0.002073	0.163508	0.8708
INTE	0.000691	0.005451	0.126727	0.8997
R_GDP	0.017271	0.086071	0.200659	0.8418
INF_R	0.001596	0.007623	0.209431	0.835
RESID(-1)	0.155188	0.145371	1.067526	0.2909
RESID(-2)	0.137599	0.144946	0.94931	0.347
R-squared	0.04742	Mean dependent var		-2.19E-15
Adjusted R-squared	-0.124045	S.D. dependent var		0.413215
S.E. of regression	0.438095	Akaike info criterion		1.338248
Sum squared resid	9.596344	Schwarz criterion		1.687305
Log likelihood	-30.14744	Hannan-Quinn criter.		1.474784
F-statistic	0.276557	Durbin-Watson stat		1.981571
Prob(F-statistic)	0.978205			

### Appendix –III: Tests for multicollinearity: pair-wise correlation coefficients

	TOT_A	CAP_AD	ASS_Q	EXP_MG	INTE	R_GDP	INF_R
TOT_A	1.00000	0.240442	-0.09629	0.027382	-0.19129726	0.05938864	-0.1007948
CAP_AD	0.240442	1.00000	-0.15857	0.106236	-0.16950132	-0.0802449	-0.0512908
ASS_Q	-0.09629	-0.15857	1.00000	0.099523	0.017677768	0.12608548	0.18511575

EXP_MG	0.027382	0.106236	0.099523	1.00000	0.120877547	-0.218876	-0.113525
INTE	-0.1913	-0.1695	0.017678	0.120878	1.00000	0.00891804	-0.1715428
R_GDP	0.059389	-0.08024	0.126085	-0.21888	0.008918045	1.00000	-0.7529423
INF_R	-0.10079	-0.05129	0.185116	-0.11353	-0.17154284	-0.7529423	1.00000

### Appendix –V: Tests for Normality: Bera-Jarque test



### Appendix – VI: Tests for Model Specification: Ramsey Reset Tests

Ramsey RESET Test

Equation: UNTITLED

Specification: ROA C TOT\_A CAP\_AD ASS\_Q EXP\_MG INTE R\_GDP

INF\_R

Omitted Variables: Squares of fitted values

	Value	df	Probability
t-statistic	0.567086	51	0.5731
F-statistic	0.321587	(1, 51)	0.5731
Likelihood ratio	0.377149	1	0.5391

F-test summary:

	Sum of Sq.	df	Mean Squares
Test SSR	0.063125	1	0.063125
Restricted SSR	10.07405	52	0.193732

Unrestricted SSR	10.01093	51	0.196293
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LR test summary:

	Value	df
Restricted LogL	-31.60487	52
Unrestricted LogL	-31.4163	51

Unrestricted Test Equation:

Dependent Variable: ROA

Method: Least Squares

Date: 01/15/17 Time:

18:10

Sample: 1 60

Included observations: 60

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	9.186983	8.529466	1.077088	0.2865
TOT_A	-0.64951	0.819334	-0.792729	0.4316
CAP_AD	0.072492	0.07127	1.017151	0.3139
ASS_Q	-0.001953	0.044548	-0.043832	0.9652
EXP_MG	-0.010366	0.007437	-1.393872	0.1694
INTE	0.003842	0.007294	0.526819	0.6006
R_GDP	-0.063462	0.091339	-0.694797	0.4903
INF_R	-0.005884	0.008369	-0.703004	0.4853
FITTED^2	0.062977	0.111053	0.567086	0.5731

R-squared	0.636674	Mean dependent var	2.810699
Adjusted R-squared	0.579682	S.D. dependent var	0.683381
S.E. of regression	0.443049	Akaike info criterion	1.34721
Sum squared resid	10.01093	Schwarz criterion	1.661362
Log likelihood	-31.4163	Hannan-Quinn criter.	1.470092
F-statistic	11.17124	Durbin-Watson stat	1.67886
Prob(F-statistic)	0.00000		

## Appendix – VII: Descriptive Analysis of dependent and independent variables

	ROA	TOT_A	ASS_Q	CAP_AD	EXP_MG	INTE	R_GDP	INF_R
Mean	2.810699	9.831492	3.245146	12.86606	81.13326	49.0971	10.67	17.56

Median	2.8985	9.933246	2.644718	11.89545	76.0195	45.12027	10.65	10.75
Maximum	4.020931	9.963246	10.89827	19.21772	244.2846	98.74185	13.1	55.2
Minimum	0.329366	9.376391	0.100411	8.488159	30.12124	33.21933	8.6	2.7
Std. Dev.	0.683381	0.088021	1.931134	3.203687	34.43145	11.38576	1.411851	15.85651
Skewness	-1.35478	-4.079699	1.954259	0.49681	1.978963	1.687344	0.219639	1.411077
Kurtosis	6.681342	18.85636	7.646307	1.904038	9.726954	7.307047	2.237306	3.70799
Jarque-Bera	52.23495	794.9997	92.16171	5.471036	152.2927	74.84793	1.936668	21.1645
Probability	0.00000	0.00000	0.00000	0.06486	0.00000	0.00000	0.379715	0.000025
Sum	168.6419	589.8895	194.7088	771.9635	4867.995	2945.826	640.2	1053.6
Sum Sq. Dev.	27.5536	0.446785	220.0274	605.5531	69945.96	7648.492	117.606	14834.3
Observations	60	60	60	60	60	60	60	60

**Appendix – VIII: Regression Results**

Dependent Variable: ROA  
 Method: Panel Least Squares  
 Date: 01/15/17 Time: 16:11  
 Sample: 2006 2015  
 Periods included: 10  
 Cross-sections included: 6  
 Total panel (balanced) observations: 60

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.921155	4.562124	1.736287	0.0887
TOT_A	-0.216181	0.49567	-0.95444	0.3445
CAP_AD	0.084933	0.012875	6.596821	0.0000
ASS_Q	-0.024778	0.024445	-1.013598	0.3157
EXP_MG	-0.014318	0.001347	-10.62968	0.0000
INTE	0.006103	0.003574	1.707436	0.0939
R_GDP	0.08441	0.055933	1.509126	0.1376
INF_R	-0.000619	0.005162	-0.119856	0.9051
D212	-2.400646	0.305949	-7.846551	0.0000
D509	-1.293618	0.318055	-4.067276	0.0002
R-squared	0.849693	Mean dependent var	2.810699	
Adjusted R-squared	0.822638	S.D. dependent var	0.683381	
S.E. of regression	0.287802	Akaike info criterion	0.497922	
Sum squared resid	4.141492	Schwarz criterion	0.846979	
Log likelihood	-4.937662	Hannan-Quinn criter.	0.634458	
F-statistic	31.40589	Durbin-Watson stat	1.444246	
Prob(F-statistic)	0.00000			

## Questionnaire in English

Dear respondents any information gathered by this questioner will be used to conduct a study for the partial fulfillment of Masters Degree in Accounting and Finance in Addis Ababa University, Faculty of Business and Economics. This questioner is prepared to identify and analyze determinants of profit fluctuation in six private commercial banks (Awash International Bank, Bank of Abyssinia, Dashen Bank, Nib International Bank, United bank and Wegagen Bank). I would like to guarantee you any information gathered by this questioner will not be used for any further use except for the preparation of master's thesis and will be kept in confidential manner. I thank you for giving me your precious time.

Note:

Ø Please fill this questionnaire only on your will.

Ø Please put "√" in your answer which you believe it is appropriate

Ø Please fill this questioner only in the banks which are selected for this research.

Ø Please avoid filling more than one questioner.

Ø For any question please call +251 911 19 08 66 or contact me on my email address [mahishifa@yahoo.com](mailto:mahishifa@yahoo.com), Adanech Shifa.

### Section A

#### A) Age

1. below 25
2. 26-35
3. 36-45
4. 46 & Above

#### B) Gender

1. Male
2. Female

#### C) Position

1. Top level Manager
2. Branch Manager
3. Ass. Branch Manager

#### D) Work Experience

1. below 5 Years
2. 6 – 15 Years
3. 16 – 25 Years
4. 26 & Above

## Section B

Please put "√" for the answer of the below questions from 1-11. The possible answers are

1 Strongly disagree (SD),

2 Disagree (D),

3 Neither agree nor disagree (N),

4 Agree (A) or

5 Strongly agree (SA)

No.	Code	Questions	1 (SD)	2 (D)	3 (N)	4 (A)	5 (SA)
<b>The cause of profit fluctuation</b>							
1	CPF1	Inefficiency of Managements					
2	CPF2	Strong rule and regulation of NBE					
3	CPF3	Unfavorable infrastructure in banking industry					
4	CPF4	Unfavorable rules and regulation apply by the government over private banks					
5	CPF5	Other reason					
<b>Factor that mostly affects profit fluctuation</b>							
6	FPF1	Bank specific factors					
7	FPF2	Economic environment of the country					
8	FPF3	Unfavorable infrastructure in banking industry					
9	FPF4	Strong control of NBE					
10	FPF5	Unfavorable rules and regulation apply by the government over private banks					
11	FPF6	Other reason					

12. Please provide us short answer here when you believe there is other reasons as a cause for profit fluctuation rather than mention at code CPF and other factors mostly affect profit fluctuation rather than those mention in code FPF?

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