ST.MARY'S UNIVERSITY

SCHOOL OF GRAGUATE STUDIES

THE IMPACT OF FOREIGN CURRENCY EXCHANGE FLUCTUATION ON THE FINANCIAL PERFORMANCE OF PRIVATE COMMERCIAL BANKS IN ETHIOPIA

By

HENOK G/MICHAEL

SGS/0327/2012A

Advisor:

MISRAK TESAYE (ASST.PROF.)

JUNE 8, 2021

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A THESIS SUBMITTED TO ST.MARY'S UNIVERSITY SCHOOL OF GRADUATE STUDIES IN THE PARTIAL FULFILLMENT OF THE REQUAIRMENT FOR THE DEGREE OF MBA IN ACCOUNTING AND FINANCE

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APPROVED BY BOARD OF EXAMINERS

Dean Graduates Studies_____ Signature & Date_____

Advisor_____ Signature & Date_____

Internal Examiner_____ Signature & Date_____

External Examiner _____ Signature & Date_____

STATEMENTS OF DECLARATION

I, Henok G/Michael declare that this thesis entitled "The Impact of Foreign currency Exchange fluctuation on The Financial Performance of Private Commercial Banks in Ethiopia" submitted in partial fulfilment of the requirements for the Degree of MBA in Accounting and Finance, is my own effort and study and that all sources of materials used for the study have been duly acknowledged. I have produced it independently with the guidance and suggestion of my Advisor MISRAK TESAYE (ASS.PROF.)

Name: Henok G/Michael

Signature……

Date…….

CERTIFICATE OF DECLARATION

This is to certify that the thesis prepared by Henok G/Michael, entitled "The Impact of Foreign currency Exchange fluctuation On Financial Performance of Private Commercial Banks in Ethiopia," and submitted for the partial fulfilment of the requirement for the degree of MBA in Accounting and Finance complies with the regulation of the university and meets the accepted standard with respect to Originality and Quality.

Name: Misrak Tesaye (ASS.PROF.)

Signature

Date

ACKNOWLEDGEMENT

First and foremost, I am thankful to God for the good health and wellbeing that were necessary to complete this paper. Secondly, I would like to express my heartfelt gratitude and indebtedness to my advisor, Misrak Tesaye (ASS.PRO.), for his constructive comments, guidance and encouragement throughout my thesis work .Lastly, I would like to express my gratitude to all of my friends and Family for their help and supports.

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LIST OF ACRONYMS

CIRP: Covered Interest Rate

Parity CPI : Consumer Price Index

ETB : Ethiopia birr

Forex : Foreign Exchange

MOT : Ministry of Trade

NBE : National Bank of Ethiopia

OLS : Ordinary Least Square

PPP : Purchasing Power Parity

ROE : Return on equity

UCIRP : Uncovered Interest Rate

Parity USD : United State Dollar

ABSTRACT

Banks played significant role in the foreign exchange market, the international trade involves different currencies; the variability of foreign exchange rates is an interesting factor that drives the level of profitability of commercial banks as it affects their financial intermediation process. This research was aimed to examine the impact of foreign currency exchange fluctuation on financial performance of private Commercial Banks in Ethiopia. It attempts to identify how foreign exchange rate along with interest rate spread , inflation rate and bank size affects financial performance measured by return to Equity (ROE). In order to satisfy the objective of the study the researcher used quantitative research approach by adopting purposive sampling technique and explanatory type of research design. The samples used for this study were secondary data for a period of 20 years starting from 2000 through 2019 for a cross section of 6 private commercial banks; these data were mined from the audited annual financial statement of banks, NBE annual bulletins and ministry of trade. The study tested for the assumptions of CLRM. Random Effect Regression model has been used to analyze the results. The study used Stata 13 econometric software package to aid in data analysis. An econometric model was used to examine the relationship between foreign exchange rate, interest rates spread, inflation rates and bank size with bank performance indicators. Outcomes of the study revealed for the existence of a negative and significant relationship between foreign exchange rates and financial performance of private commercial Banks, a positive and significant relationship between bank size and financial performance of private commercial banks. The study concluded that there was insignificant relationship among interest rate spreads and inflation rates with the financial performance of private commercial banks in Ethiopia in the study period. The study recommends that the Government should put up more measures to increase the country's exports and foreign direct investment and the National Bank of Ethiopia should adequately put measures to safeguard the value of the domestic currency. This would ensure that the value on the same does not fluctuate much day in day out and Banks Management in Ethiopia should adopt appropriate strategies so as to mitigate against foreign exchange risks.

Key Words: Foreign currency exchange rate, financial performance, banking sector in Ethiopia

CHAPTER ONE

INTRODUCTION

The first chapter of this thesis introduces the area of study, providing a background of the study. This chapter is organized under different section in which background of the study, statement of the problem, basic research questions, objective of the study, research hypothesis , limitation of the study then finally structure of the paper are presented.

1.1 Background of the Study

The banking industry is one of the most heavily regulated industries in the world and gets a great deal of attention in the economic literature considering that banks serve a pivotal role in the economy. Again banks play an important role in economic development through mobilization of funds from within and outside the country and channeling such funds to various sectors of the economy by moveable fund (Council of ministers, 2010). As the result of banks the best financial performance rewards the shareholders for their investment. Thus, in turn, encourages additional investment and brings about economic growth. In order to provide a sustainable intermediation services in the economy and reasonable reward for the shareholders, banks need to be profitable. They can do so, if they generate necessary income to cover their operational cost. On the other hand, the bad or poor banking performance can lead to banking failure and crisis which have negative repercussions on the economic growth (Ongore and Kusa,2013).

Globalization has encouraged many corporations to extend their businesses beyond the geographical boundaries in order to benefit from competitive advantage and economies of scale, so in the global trade involve different currencies the variability of foreign exchange rates is a potentially interesting factor that drives the level of profitability of commercial banks as it affects their financial intermediation process (Chiira, 2009). Because there is no country that is self- reliant but instead they all transact business with one another, foreign exchange rate becomes hard. In this sense Exchange rate is a vital microeconomic variable and backbone of Trade (Adetayo et al 2004).And exchange rate plays significant roll by provides a key link between a country and the rest

of the world, both in goods and assets markets (Afrid, 1996). It affects the volume of both imports and exports (by changing their relative prices), as well as the stock of foreign debt in domestic currency terms. In fact, all transactions with the rest of the world can be potentially affected by the level of the exchange rate. A depreciation of exchange rate or the value of local currency in certain country is associated with competitiveness gains, in a sense relative price of export will fall and imports become relatively more expensive and the purchasing power of money decreased in other word inflation rate of the country increased. However currency depreciation usually worsens the country‘s debt position and increase interest payments (Martins,2009).The Exchange rate volatility measures the degree to which the exchange rate fluctuates or varies over a period of time. Exchange rate is said to be more volatile if there are more frequent ups and downs or less volatile if there are lesser changes in it over a period of time. There is a real time fluctuation in floating exchange rate (Sabri, 2011). According to Stancik (2006) there are a variety of factors contributing to an exchange rate fluctuating in certain country. These are the openness of an economy, the domestic and foreign money supplies, the exchange rate regime, interest rates, central bank independence, and levels of output, income, inflation, and unpredictable circumstances. But the impact of each of these factors describes in above varies and depends on the economic situation of certain country(Stancik,2006).

All commercial banks face Foreign Exchange risk, in according to Sabri (2011) this risk arise when a bank holds assets or liabilities in foreign currencies and impacts the earnings and capital of bank due to the fluctuations in the exchange rates. Exchange rate can move in either upward or downward direction at any time. This uncertain movement poses a threat to the earnings and capital of commercial banks. Financial managers of banking sector must understand how to measure the exposure to exchange rate fluctuations so that they can determine whether, how to protect their company and how to mitigate this risk from such exposure. Foreign exchange rate fluctuations could be an important source of risk for banking institutions as explained in above paragraph in the worst case, large foreign exchange losses could lead to bank failures besides causing huge burdens on banks‘ profitability (Jamal and Khalil, 2011). The foreign exchange exposure can be discerned largely from their accounting data, the indirect exposure, which arises from impacts of exchange rate fluctuations on the economy in general and banks‘ customers in particular (Kinyuma,2013) The average foreign-exchange exposure of private commercial banks in Ethiopia is high. This may reflect the lack of financial

instruments available for Ethiopian banks to hedge their foreign- exchange risk, or that the banks are less experienced in managing foreign-exchange risk. Now a day‘s Ethiopian Private Commercial Banks are required to arrange bank‘s loan to an exporter by National Bank of Ethiopia which demonstrate that banks that perfectly hedge their accounting exposure could still be exposed to a significant foreign exchange risk if exchange rate movements that affect cash flows, competitiveness, and credit risk of banks‘ customers significantly (i.e. indirect or economic exposures). In addition to this the directive no 50/2010 issued by National Bank of Ethiopia (NBE) for commercial banks to channel all the windfall earnings they generated from the sale of foreign currencies to the central bank. This indicates that the sources of foreign exchange risk of banks are far more than just their holdings of net foreign assets (Adler,2004).According to Popper (1996) like many firms, banks can be affected by exchange rate fluctuations. Exchange rates affect most directly those banks with foreign currency transactions and foreign operations. Even without such activities, exchange rates can affect banks indirectly through their influence on the extent of foreign competition, the demand for loans, and other aspects of banking conditions. Foreign currency Exchange rate movement in Ethiopia especially USD to ETB has been variable with periods of rapid depreciation of the domestic currency ‒Ethiopia Birr‖, which adversely affect the Ethiopian economy. Even though studies have be conducted on the exchange rate regimes and the implications for macroeconomic management as well as managing foreign exchange risk, very little has been done on the study of the firm exposure to exchange risk in Ethiopian. It is in this context that this research will able to evaluate the effects that variations in the exchange rate has in the financial performance of the selected private commercial banks in Ethiopia.

1.2 Statement of the problem

Since 1992, the Ethiopian foreign currency exchange rate is characterized by a managed floating exchange rate regime. In this regime, exchange rate is determined by demand and supply forces but the government may intervene to stabilize the exchange rate. Follow of this exchange rate change Ethiopian currency has been radical and continuously depreciating against major hard currencies especially to USD. In addition to this, Ethiopia one of import oriented country, experience price instability in the face of exchange rate volatility because its economy is heavily dependent on imports of raw materials, capital goods and consumer goods, hence, there needs to manage the foreign

exchange market(Agu,2002…). Exchange rate therefore plays an increasingly significant role in any economy as it directly affects domestic price level, profitability of traded goods and services, allocation of resources and investment decision (Agu, 2002) According to Popper (1996) Banks played significant role in the foreign exchange market, through the exchange rate translation which is very critical to banks performance. And on the other hand banks are the back bone of a nation‘s economy due their intermediary function and the importance attached to the foreign exchange rate stability in any given economy. So as like many firms, as described in above banks can be affected by exchange rate fluctuations. Exchange rates affect most directly those banks with foreign currency transactions and foreign operations. Even without such activities, exchange rates can affect banks indirectly through their influence on the extent of foreign competition, the demand for loans, and other aspects of banking conditions (Popper 1996…).

As we can see in Table 1 below foreign currency exchange rate movement in Ethiopia since Jun, 30 2000 has been in continuous variation with periods of rapid depreciation of the domestic currency: Ethiopia Birr to USD, which adversely affect the Ethiopian economy and this has greatly affected the Performance of commercial banks as they seek to provide adequate currency to promote international business (NBE, Annual report 2000-2019)

Table 1 Exchange rate of ETB against to USD

Year	USD DOLLAR	ETB
Jun, 30 2000	$ 1	8.14
Jan, 09 2019	$ 1	26.11

Source: NBE Annual report (2000-2019)

Some of studies done related with the subject matter conducted on title impact of foreign currency exchange fluctuation on the financial performance of private commercial banks in Ethiopia. A Study by (Tadesse, 2015) carried out to investigate impact of exchange rate on the profitability of commercial banks in Ethiopia which was failed to include inflation rate as a factor that determines bank profitability. According to Gray (2014) exchange

rates themselves are clearly impacted by general economic conditions, a host of economic variables like relative inflation and interest rates, and obviously by general supply and demand conditions for the currencies therefore this study includes inflation rate as determinant of financial performance. And another study by Lake (2013) tried to investigate the impact of financial risks on the profitability of commercial banks for a total of eight commercial banks in Ethiopia, covering the period of 2000- 2011. This study tells foreign exchange rate is insignificant for profitability of the commercial banks of Ethiopia directly opposite to Tadesse (2015) finding .so the researcher will try to a bridge to this inconsistency. Amezenech (2018) and Biruk (2012) were tried to investigate the effect exchange rate volatility on Ethiopian coffee export and the agricultural exports respectively but agricultural product had very difference nature from banking sector so it‘s necessary to know the effect of exchange rate volatility on the financial performance of bank in order to reduce the financial risk.

A lot of studies were done locally and abroad related with the subject matter. However, there is still no consensus on the effect of foreign currency exchange rate on the financial performance of banks. Some school of studies indicated that the impact of foreign currency exchange rate volatility has a strong positive relationship with financial performance indicators, while other school of studies showed exchange rate has statistically negative significant impact on the profitability firms. Therefore, this study tried to examine the impact of foreign currency exchange rate fluctuation on the financial performance of private commercial banks in Ethiopia and provided empirical evidence that can contribute for bridging this inconsistency result. It was very important to undertake further studies that focus on developing countries where continuous and volatile exchange rates are highly observed in this sense Ethiopia is one of them so it important to study the impact of foreign currency exchange rate fluctuation on the financial performance commercial banks in Ethiopia.

1.3 Objective of the research

1.3.1 General Objective

The general objective this study was to examine the impact of the foreign currency exchange (appreciation, stability and depreciation) on financial performance of private commercial banks in Ethiopia.

1.3.2 Specific Objectives

The specific objectives of this study are:

- To examine the effect of Foreign exchange rate on the performance of Private commercial banks in Ethiopia.
- To examine the effect of bank size on the performance of Private commercial banks in Ethiopia.
- To examine the effect of interest rate spread on the performance of Private commercial banks in Ethiopia.
- To examine the effect of inflation on the performance of Private commercial banks in Ethiopia.

1.4 Research Hypothesis

Research hypothesis is a predictive statement, capable of being tested by scientific methods, that relates an independent variable to some dependent variable (Kothari, 2004). Hypothesis of the study stand on theories and empirical findings related to bank's financial performance that has been developed over the years by banking area scholars.

H1: Foreign exchange Rate has negative and significant effect on profitability of private commercial banks.

H2: Interest Rate Spread has positive and significant effect on profitability of private commercial banks.

H3: Inflation has negative and significant effect on profitability of private commercial banks.

H4: Size of the Bank has positive and significant effect on profitability of private commercial banks.

1.5 Significance of the Study

This study would be of beneficial to several financial service institutions, specifically to Managers of banks, Government of Ethiopia, academicians and researchers. This study provided information to guide their management decisions

following the changes in the exchange rate in Ethiopia for a strong banking industry. It would equip them with the necessary knowledge for taking the necessary action to protect the performance of their organizations. For the Government of Ethiopia, the findings of this study would inform the formulation of policies and regulations for a strong and resilient banking industry. The findings of this study would inform the fragile foreign currency reserves making it difficult for the banking industry to transact freely. For future academicians and researchers, the findings of this study would be important in providing material for their reference besides suggesting areas for further research. Future scholars would find this study important because it would identify areas for further studies which future scholars can study.

1.6 Scope of the Study

This research is adjusted to fit its objectives of investigating the foreign currency exchange fluctuation on financial performance of private Commercial Banks within the limits of specified time and possibility. The researcher decided to limit this study to the private commercial banks found in Ethiopia namely as Awash International Bank S.C, Dashen Bank S.C, Abyssinia Bank S.C, Nib International Bank S.C, United Bank S.C and Wegagen Bank S.C. those were registered by NBE before 1999/00 and having nineteen year consecutive annual statement.To this end, this study covered a panel data of these banks over the period 2000 to 2019 because the researcher believes twenty years data sufficient to this study. Thus, this study is limited to foreign exchange rate, interest rate spread, inflation (Consumer Price Index) and size of the bank as determinants of profitability (Return on Equity) of private commercial banks between the above mentioned periods. The data required for defining those variables was reviewed from balance sheet and income and loss statements of each commercial bank and macroeconomic data were reviewed from National Bank annual reports.

1.7 Limitations of the Study

A study of the impact of foreign currency exchange fluctuation on financial performance of private Commercial Banks in Ethiopia needs wider coverage in terms of countrywide examination of all factors deemed necessary. The study uses quantitative approach and secondary data. Consequently, the study lacks rich qualitative data that triangulate and further explain the quantitative findings. Furthermore, the sample includes only a few

private banks only in Ethiopia. It would be difficult, therefore, to generalize unless this kind of study is undertaken in some more developing countries like Ethiopia. Despite the limitations, compressive study was conducted leading to the achievement of the research objective.

1.8 Organization of the Study

This study organize in five chapters. The first chapter is dedicated to the background to the study, statement of the problem, research objectives, significance of the study, scope and limitation of the study and organization of the study. Chapter 2 provides the literature review which has composed of theoretical and empirical research. Chapter 3, which is about methodology of the research, presents the research design employed, the sampling and, data collection methods, and the data analysis method and technique. Chapter 4 presents analysis results and findings of the study. Lastly, Chapter 5 deduces the implications of the findings, concludes the investigation and suggests areas for future research.

2 CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents literature reviewed in order to provide a basis for the study and the concepts. In addition, the chapter highlights theories guiding the study, determinants of financial performance, empirical studies thereby illustrating the research gap after which it presents the summary of empirical literature.

2.2 Theoretical and Conceptual Literature Review

2.2.1 Foreign Exchange Exposure Theory

The general concept of exposure is the level of impact on the net worth of a firm due to fluctuating exchange rates (El-Masry 2006). Many Empirical research works on it according Muller (2006), describes that volatile of exchange rates affect the revenue and profits of both multinational and local corporations. Because of the prevalence of outsourcing activities to foreign countries, corporations incur costs in foreign currency (e.g., wages, taxes and material) and it is important for corporate financial managers to be aware of the extent of this exposure (Abor 2005). Even if corporations not involved in foreign exchange trades are also exposed to the fluctuating exchange rates through competition with multinational organizations, foreign competitors, and macroeconomic conditions. Therefore, many local and multinational organization‘s find their income statements and business performance affected by fluctuating exchange rates, in spite of their having only indirect financial exposure (Parsley & Popper 2006). These effects could be change in prices, the cost of final goods, the cost of raw material, labour costs or the costs of input or output and other substitute goods due to fluctuating exchange rates may have an adverse effect on the competitive position of a domestic firm with no international and foreign activities but this exchange rate effect depends on the type of product and the nature of the competitive environment in which the entity operates. (Bradley & Moles 2001). Hence, foreign exchange exposure theory describes movement of exchange rate greatly affect the firm value through their effect on sales and net assets values.

2.2.2 Currency Base Theory

This theory was developed by Aliber (1971) and the currency base theory is based on imperfect foreign exchange and capital market. He postulates that internationalization of firm can best be explained in the in terms of the relative strength of different currencies, such as firms from a strong-country and firms from a weak country. In a weak-currency country, the income stream is fraught with greater exchange risk and as a result, the income of a strong-currency firm country firm is capitalized at a higher rate, implying that such a firm is to acquire a large segment of income generation in the weak currency country corporate sector.

2.2.3 The Purchasing Power Parity Theory

The purchasing power parity (PPP) is a theory of exchange rate determination. It asserts (in the most common form) the exchange rate change between two currency over any period of time is determined by changes in the two countries relative price levels. (Dornbusch, 1985) The purchasing power parity (PPP) theory originated from the writings of the Swedish economist Gustav Cassel (1918).The theory states that the value of homogenous goods is similar in different countries based on the currency of each country. According to him, when purchasing power is similar in different countries then the exchange rates between the country‘s currencies will be at equilibrium. Reid and Joshua (2004) postulated that ratio of commodities price levels should equal the country‘s currency. According Ross (2008), a country‘s currency may be incorrectly valued whereby money has no purchasing power against the country‘s commodities level. This theory is based on the assumptions that there are no transactional costs, no barriers to trade and the commodities being traded are homogeneous. If the trading currency is exchanged at the spot exchange rate, the price of a homogenous commodity should be identical across borders. The theory suggested use of price indexes to determine the exact price of a homogenous commodity between countries. The main challenge of this belief is in measuring Purchasing Power Parity constructed from price indexes given that different countries use different goods to determine their price level (Reid, 2005).Menon and Viswanathan (2005) showed two classification of PPP; absolute and relative.

2.2.3.1 Absolute PPP

It holds equilibrium exchange rate between two countries **is** determined entirely by the ratio of the national price levels. It‘s assumes they are no barriers in the market hence law of one price will operate PERFECTLY. However in reality, the following will prevent: transportation costs; tariffs and quota. Thus the discrepancy of not having one law price for common well in all market will remain. Absolute PPP is generally viewed as a condition of goods market equilibrium. Under absolute PPP, both the home and foreign market are integrated into a single market. Since it does not deal with money markets and the balance of international payments, we consider it to be only a partial equilibrium theory, not the general one. Perhaps because absolute PPP require many strong impractical preconditions, it fails in explaining practical phenomenon, and signs of large persistent deviations from Absolute PPP have been documented (Kanamori, 2006).

2.2.3.2 Relative PPP

This version acknowledges existence of market imperfections and assumes that prices of the same goods may have different prices when measured on the same common currency. It does state that, the rate of change in the prices of the baskets should be somewhat similar when measured in a common currency as long as the transportation costs and trade barriers are unchanged. It holds percentage change in actual spot rate between two countries is determined entirely by differences between actual currencies inflation rates (Mishkin,2012).%age actual change in spot rate = actual inflation rate counter currency – actual inflation rate base currency.

2.2.4 Interest Rate Parity Theory

As early as the period of the gold standard, monetary policymakers found that exchange rates were influenced by changes in monetary policy. The rise of the home interest rate is usually followed by the appreciation of the home currency, and a fall in the home interest rate is followed by a depreciation of the home currency. This indicates that the price of assets plays a role in exchange rate variations. The interest rate parity condition was developed by Keynes (1923), as what is called interest rate parity nowadays, to link the exchange rate, interest rate and inflation. The theory used to explain the value and movements of exchange rates. It is known as the asset approach to

exchange rate determination. The interest rate parity theory assumes that the actions of international investors—motivated by cross-country differences in rates of return on comparable assets—induce changes in the spot exchange rate. In another vein, IRP suggests that transactions on a country‘s financial account affect the value of the exchange rate on the foreign exchange (Forex) market. The theory also has two forms: covered interest rate parity (CIRP) and uncovered interest rate parity (UCIRP). CIRP describes the relationship of the spot market and forward market exchange rates with interest rates on bonds in two economies. UCIRP describes the relationship of the spot and expected exchange rate with nominal interest rates on bonds in two economies.

2.2.5 The International Fisher Effect

This model was developed by Irving Fisher in his book *The Theory of Interest* (1930). The theory states that nominal interest rates (N) are a function of the real interest rate (R) and a premium (I) for inflation expectations (Mishkin, 2012). This means if all investors of all countries require the same real return, interest rate differentials between countries may be the result of differential in the expected inflation. Ubindi (2006) asserts that differences in interest rates amongst countries are as consequences of expected inflation diverge because investors require the same real return. .The theory suggests that foreign currencies with relatively high interest rates will tend to depreciate because the high nominal interest rates reflect expected rate of inflation (Madura, 2012). This Fisher Effect explain why inflation may not be seen affecting the real interest rate in the long-run. In order for real interest rates not to be effected by inflation, the nominal interest rate must mimic the changes in the inflation rate. If inflation rate increases by 2%, nominal interest rates must increase by 2%. This keeps the real interest rate unchanged because the increase in the nominal rate and the increase in the inflation rate cancel out any effect on the real interest rate. The nominal interest rate would also incorporate the default risk of an investment (Staikourasand Wood,2004).

The theory holds that a strategy to borrow from one country and invest in another country should not provide positive returns as exchange rates adjust to offset differences in interest rate (Ubindi, 2006). However, this theory is limited by the sense that there are other factors other than inflation that affect exchange rate. Thus the exchange rates do not adjust in accordance with the inflation differential. This theory is relevant for this study as it explains the purchasing power of each currency which

captures the inflation across countries to ensure that at equilibrium exchange rates, the basket of goods and services purchased by one unit of a country‘s currency equals to those purchased in the second country

2.3 Determinants of Bank Financial Performance

Financial performance refers to the ability to leverage operational and investment decisions and strategies to achieve a business‘ financial stability. In other word financial performance Is denotes the percentage of attainment of targets or goal by the firm. It is the measure of a bank‘s achievement of its financial goals guided by its financial objectives and benchmarks. Profit is the ultimate goal of all Banks. To measure the profitability, there are variety of ratios used of which Return on Asset, return on Equity and Net Interest Margin are the major ones.(Mueni,2016) An organization‘s performance can be determined by a number of factors; these factors are either internal or external. Factors that impact on the management of the board of directors are internal factors and affect the organization‘s profitability and are bank specific variables. Internal factors differ from one bank to the next and are within a bank‘s scope of manipulation. These comprise of information technology, capital size, labor productivity, deposit liabilities, management quality, credit portfolio, interest rate policy, bank size and ownership. External factors affecting the performance of a bank are mainly GDP, macroeconomic policy stability, exchange rate, Inflation, Political instability and Interest rate (Athanasogluo et al 2005).

This study focuses on four factors as influencing the financial performance of banks one from internal factor(size of bank) and three from external factors (exchange rate, interest rate spread, and inflation rate).

2.3.1 Exchange Rate

The foreign exchange rate is the price at which the foreign currency can be acquired. A variety of factors determine the exchange rate between two currencies; unfortunately for those engaged in international business the exchange rate can fluctuate over time.(Hoyle et al,2011).The exchange rate tells the relative value of any two values. Countries have different policies concerning their currency exchange rate. According to Hoyle et al, (2011) There are three major type of exchange rate system (regime) these are: floating exchange rate system, the currency‘s foreign exchange rate is allowed to

fluctuate freely by supply and demand for the currency , In fixed exchange rate system the government intervene to offset changes in exchange rate caused by change in the currency‘s supply and demand and Managed floating exchange rate system which falls somewhere between the fixed and floating system. In the managed floating exchange rate system the currency‘s exchange rate are allowed to fluctuate in response to change in supply & demand, but the government may intervene to stabilized the exchange rate in the short run, avoiding short term wild fluctuation in exchange rate.

The exchange rate is not fixed asset tends to vary based on the particular currencies and also the particular time or period. Certain currencies will have a higher value than others, but when the value decreases it is termed as to depreciate. There are many factors that result in changes in the exchange rates and this includes mainly the balance between demand and supply in the foreign market. These changes occur spontaneously and always seem almost difficult to predict. The changes result in the organizations performance to is changed as well. This is however limited largely to those organization undertaking mainly in international transactions or currencies as the locally based ones will be impacted minimally (Nyandema, 2016). As such high exchange rates will make most foreign investors shun from making any transactions at that particular time. The banks will be affected in the similar way as depreciation in the local currency will mean reduced transactions such as savings and borrowing resulting in reduced returns

2.3.2 Inflation

Many scholars use the term inflation to describe a situation in which the economy‘s overall price level is rising but the general definition of Inflation is the percentage change in price level from the previous period and also inflation rate is calculated using consumer price index which is a measure of the overall cost of goods and services brought by a typical consumer. (Mankiw, 2003)

Inflation is referred to a condition whereby the value of currency of a particular currency reduces significantly (Biller, 2007). It could also be seen as the increase in prices of commodities in a country. When inflation occurs, it affects almost all the sectors in the economy ranging from international business to the common citizens. The high prices make its unfavourable to undertake in numerous transactions as before. Inflation is

seen as an economic crisis and therefore each government ensures that the inflation levels are kept relatively low. However, inflation may also result in positive effects whereby an organization invests heavily before inflation has occurred and later benefit during the inflation period. Yet, inflations are not easily predicted and will therefore in most cases lead to negative effects. The banks thus ought to have mechanisms of predicting or managing inflation levels so as to be consistent in their performance.

2.3.3 The size of the Bank

The size of the bank is specific factor organization and one of the best determines an Organization‘s financial performance. Bank size possesses a very crucial role on bank‘s performance which cannot be ignored. Large banks exploit the economies of scale and thus have more efficiency as compared to small organizations (Wild, 2010). Ahmed, (2015) explain that large banks tend to be more efficient than small banks because they are capable of exploiting more economies of scale and scope. This means large banks enables them acquire more client and undertaking in more transactions which translate to more returns. Additionally, the large banks tend to be more trusted by the customers and this implies more clients will opt to invest in them as opposed to the smaller ones. Also, in case risk occurs, the larger banks are in a position to mitigate it and be affected minimally whereas the smaller banks will be highly prone to dissolution and insolvency. This has seen most small banks to endeavour to expand their business and market values. Size can be determined by net premium which is the premium earned by a bank after deducting the reinsurance ceded. The premium base of insurers dictates the quantum of policy liabilities to be borne by them (Teece,2009).

2.3.4 Interest rates

Interest rate is price a borrower pays for the use of money they borrow from a lender or financial institution and expressed as a percentage rate over the period of one year and the same time this price major income of banking sector. Interest rates, inflation and exchange rates are all highly correlated. By manipulating interest rates, Central Banks exert influence over both inflation and exchange rates, and changing interest rates impact inflation and currency values. Higher interest rates offer lenders in an economy a higher return relative to other countries. Therefore, higher interest rates attract foreign capital and cause the exchange rate to rise. The impact of higher interest rates is mitigated,

however, if inflation in the country is much higher than in others, or if additional factors serve to drive the currency down. The opposite relationship exists for decreasing interest rates - that is, lower interest rates tend to decrease exchange rates (Bergen, 2010).

High interest rates tend to discourage people from borrowing and opting to invest more while low interest rates tend to encourage more loans being acquired. This may be exploited by the regulatory bodies when they want to either increase or decrease cash inflow by the banks. In a similar way, the interest rates may also determine the currency values. The interest rates are directly proportional to the demand in that increase in demand will tend to increase the value of the currency. As know interest rate is the major income of bank sector but it had direct cost deposit interest rate so for this research the researcher used interest rate spread (lending rate minus deposit interest rate).

2.4 Empirical Review

This section reviewed various international and local studies conducted by various scholars on the subject of foreign exchange rate fluctuations/volatility and financial performance of commercial banks. It is divided into international and local studies.

2.4.1 International studies

Isaac (2015) investigated the impact of exchange rate risk on bank performance in Nigeria. The study employs the usage of secondary sources of information and utilizes an auto regression conditional model as means for measuring risk. The model specified the conditional variance as a deterministic function of lagged squared residual. The study revealed that unit increases in exchange rate is driven by an increase in profit after tax (PAT) and equally indicated that there is a significant relationship between exchange rate management and performance of financial institutions, most especially banks. It is recommended that as an effective way of managing exchange rate risk, bank should create a centralized entity within its operations as an institutional strategy to deal with the practical aspects of the execution of exchange rate forecasting, while the hedging approach mechanism should be adopted in the accounting procedure regarding currency risk. Also the type of exchange rate risk that a bank or firm is exposed to, as well as the measurement of the associated risk exposure must be meticulously identified, as a prerequisite for effective management of exchange

risk. Wong et al (2008) examined the foreign exchange exposure of Chinese banks. Using the Capital Market Approach and equity-price data of 14 listed Chinese banks, this empirical study finds that there is a positive relationship between bank size and foreign exchange exposure, which may reflect larger foreign-exchange operations and trading positions of larger Chinese banks, and their significant indirect foreign exchange exposure arising from impacts of the exchange-rate fluctuations on their customers. Empirical evidence also suggests that the average foreign- exchange exposures of state owned and joint-stock commercial banks in China are higher than those of banks in Hong Kong, notwithstanding that their participation in international banking businesses is still limited compared with their Hong Kong counterparts. It was also found that negative foreign-exchange exposure was prevalent for larger Chinese banks, suggesting that an appreciation of the tends to reduce their equity values, and was therefore likely to hamper the banking sector‘s performance. Another study conducted by Ahmed (2015) on the Effect of Foreign Exchange Exposure on the Financial Performance of Commercial Banks in Kenya. The overall objective of the study is to find out the effect of foreign exchange exposure on commercial bank performance. The research used both secondary and primary data. The study found that first; interest rates have an insignificant positive effect on commercial bank performance, secondly, foreign exchange exposure has negative effect on the performance of listed commercial banks in Kenya and finally, inflation has negative effect on bank performance. The study recommended that regulators who include Central Bank of Kenya to manage the interest rates in the country so as to ensure stable exchange rate environment and the management of commercial banks in Kenya to continue improving the foreign exchange exposure management techniques.

Bergen (2010**)** has examined the factors that influence exchange rates and found that interest rates, inflation and exchange rates are all highly correlated. According to Bergen (2010), by manipulating interest rates, central banks can exert influence over both inflation and exchange rates, and changing interest rates impact inflation and currency values. Higher interest rates offer lenders in an economy a higher return relative to other countries. Therefore, higher interest rates attract foreign capital and cause the exchange rate to rise. The impact of higher interest rates is mitigated, however, if inflation in the country is much higher than in others, or if additional factors serve to drive the currency down. The opposite relationship exists for decreasing interest rates, that is, lower interest

rates tend to decrease exchange rates. Taiwo(2013) examined exchange rate volatility and bank performance in Nigeria. This study investigated the impact of unstable exchange rate on bank performance in Nigeria using two proxies for bank performance, namely loan loss to total advances ratio and capital deposit ratio. Government expenditure, interest rate, real gross domestic product were added to exchange rate as independent variables. The two models specified show that the impact of exchange rate on bank performance is sensitive to the type of proxy used for bank performance. Loan loss to total advance ratio shows that fluctuating exchange rate may affect the ability of lenders to manage loans resulting into high level of bad loans while capital deposit ratio does not have significant relationship with exchange rate. A core recommendation of this study was that a stable exchange rate is needed to improve the ability of the banking sector to channel credit to the economy.In contrast, C. Lagat and M. Nyandema (2016) examined the influence of foreign exchange rate fluctuations on the financial performance of commercial banks listed at the Nairobi securities exchange. Their paper was based on a study that sought to understand the relationship and effects of foreign exchange liberalization on financial performance of commercial banks listed in Kenya‘s Nairobi Securities Exchange. Their study used a time series correlation research design with the target population being all commercial banks that are listed in the Nairobi Securities Exchange between 2006 and 2013. Data was sourced from the Central Bank of Kenya and published yearly accounts of listed banks. The study used multivariate Linear Regressions to establish the relationship between foreign exchange rate fluctuations, inflation rates, interest rates and bank performance indicators. Pearson product moment correlation (r) was applied to establish the relationship between the variables. The study found that there was an existence of a strong positive relationship between foreign exchange rates and financial performance indicators. The positive relationship between exchange rate and financial performance may reflect how fluctuating and volatile exchange rate may have contributed to the growth of profitability of banks. The study recommended that the Government should put up more measures to increase the country‘s exports. And another study by, Addae1, Nyarko-Baasi1 and Tetteh(2014) examined the effect of exchange rate fluctuations on Ghanaian banks. It looked at the exchange rate sensitivity of some listed banks on the Ghana Stock Exchange (GSE) between 2005 and 2010. It adopted both quantitative and qualitative approaches. Econometric models were employed to deal with both the exchange rate sensitivities and

to ascertain the exchange rate exposure of the Banks. The study established that all the banks studied engaged in forex trading and made gains/profits from such activities. It was further found that apart from Ghana Commercial Bank and Standard Chartered Bank who were exposed to foreign exchange risk – pound sterling, the rest of the banks had no exposure to any of the currency risk. All the banks on the other hand had risk management structures in place to mitigate any risks that arise as a result of their operations. Opaluwa, et al (2010) examined the effect of exchange rate fluctuations on the Nigerian manufacturing sector during a twenty (20) year period (1986 – 2005). The argument was that fluctuations in exchange rate adversely affected output of the manufacturing sector. This was because Nigerian manufacturing was highly dependent on import of inputs and capital goods paid for in foreign exchange whose rate of exchange was unstable. The methodology adopted for the study was empirical. The econometric tool of regression was used for the analysis. In the model that was used, manufacturing output employment rate and foreign private investment were used as the explanatory variables. The result of the regression analysis showed that coefficients of the variables carried both positive and negative signs. The study showed adverse effect and is all statistically significant in the final analysisRutto and Ondiek (2014**)** have also investigated the extent to which exchange rate volatility affect performance of tea exports using time series data for the period of 1970-2008 in order to recognize the short run and long run behavior of the variables. Co-integration and error correction technique (ECM) developed by Engle and Granger was used. Dickey fuller (DF) and Augmented Dickey Fuller (ADF) unit root test for stationarity was employed in the study. Central bank of Kenya, Kenya National Bureau of Statistics, Tea Board of Kenya and the International financial statistics of International Monetary Fund (IMF) were the source of data. The findings of this study indicate that exchange rate volatility negatively affects performance of tea exports in the country and finally it recommends periodic monitoring of the exchange rate so as to reduce its impact and drawing of fiscal and monetary policy that will make exchange rate manageable.

2.4.2 Local Studies

The study by Tadesse (2015) examined the impact of exchange rate on the profitability (ROE) of commercial banks in Ethiopia using a balanced panel data set of banks over the period of 2000- 2014. Furthermore, this study tried to determine how

exchange rate affects the growth of bank loan with the intension to identify whether one of the indirect effects of exchange rate on bank profitability is through its effects on loan growth. The finding of this study was exchange rate has statistically negative significant impact on the profitability of commercial banks. But he failed to include inflation rate in the model. Inflation rate one of variable directly affected by exchange rate beside interest rate and other microeconomic variables so this study used inflation rate as determinant of profitability of banks.Lake (2013) tried to investigate the impact of financial risks on the profitability of commercial banks for a total of eight commercial banks in Ethiopia, covering the period of 2000-2011. The result of the study is Credit risk and liquidity risk has a negative and statistically significant relationship with banks‘ profitability. And the relationship for interest rate risk and foreign exchange rate risk is found to be statistically insignificant. This study tells foreign exchange rate is insignificant for profitability of the commercial banks of Ethiopia directly opposite to Tadesse (2015) finding .so the researcher will try to a bridge to this inconsistency. Biruk (2012) tried to examine the impact of exchange rate volatility on the agricultural exports of 29 selected Sub Saharan African countries using 13 years data (1996-2008) data. The result the study shows Exchange rate volatilities is found to have a negative and significant impact on the agricultural exports of the SSA countries across the different estimation techniques. As per finding the researcher concludes that Trade policies that are designed to increase exports might create uncertainty in the exchange rate and ultimately end up reducing exports. So this study recommended, SSA countries should have a stable exchange rate policy.Again Amezenech (2018) investigated the effect exchange rate volatility on Ethiopian coffee export by using annual time series data (1980/2015) collected from the country‘s different institution. Tools of descriptive statistics were used to analyses the data and understand the dynamics of the variables included in the analysis. The finding indicates that coffee export in Ethiopia has negative and significant relationship with exchange rate volatility. However, agricultural product very difference from banking sector so it‘s necessary to know the effect of exchange rate volatility on the financial performance of bank in order to reduce the financial risk.

2.4.3 Summary of Literature Review and Knowledge Gap

This chapter has reviewed literatures relevant for the study. It specifically reviewed the theories guiding the study including: Foreign Exchange Exposure Theory,

Currency Base Theory, Purchasing Power Parity Theory, Interest Rate Parity Theory and the International Fisher effect. Those explain foreign exchange rates effect in the organizations engage in the international trade. The study further reviewed empirical studies done both from abroad and local perspectives. The empirical studies done by (Isaac (2015), Wong et al (2008) Ahmed (2015); Bergen (2010); Taiwo(2013); C. Lagat and M. Nyandema(2016): Addae1, Nyarko-Baasi1 and Tetteh (2014): Opaluwa et al (2010) and Rutto and Ondiek (2014) which done on international setting in countries whose findings may not apply to Ethiopian firms. The ones done in Ethiopia (Tadesse (2015), Lake (2013) ,Amezenech (2018); and Biruk (2012)) where Tadesse(2015) was try to measure the effect of exchange rate on financial performance of commercial banks of Ethiopia but he failed to include inflation rate as determinant of financial performance and Lake (2013) concluded his study exactly opposite to Tadesse(2015) he tells foreign exchange rate is insignificant for profitability of the commercial banks of Ethiopia to the researcher try to a bridge to this inconsistence . Amezenech (2018) and Biruk(2012) was attempted to investigate the impact of exchange rate volatility on the coffee and Agricultural exports respectively. However, agricultural product very difference from banking sector so it‘s necessary to know the effect of exchange rate volatility on the financial performance of bank in order to reduce the financial risk.

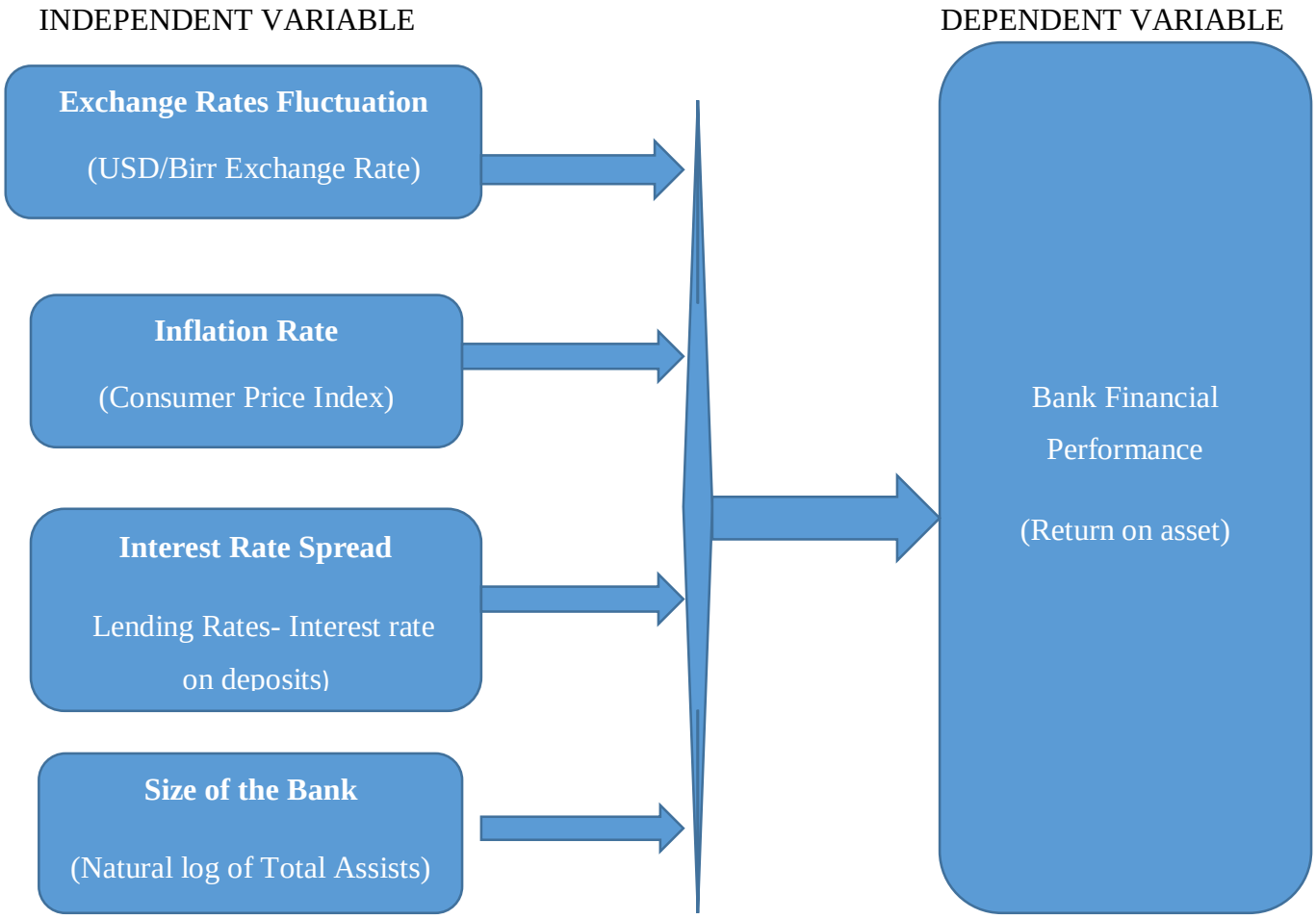
From the studies reviewed, the effect of foreign exchange rate on the financial sector profitability and other sector Profitability is inconsistent. The finding some researcher like C. Lagat and M. Nyandema(2016), Addae1, Nyarko-Baasi1 and Tetteh (2014) have strong positive and significant relationship between foreign exchange rates and financial performance indicators while the finding of other researcher like, Tadesse (2015), Ahmed (2015), Opaluwa, Umeh and Ameh (2010) and Amezenech (2018) exchange rate has statistically negative and significant effect on the profitability firms and the researcher like Lake (2013) exchange rate has statically insignificant effect on the profitability of commercial banks.

Therefore, this study tried to investigate the impact of foreign currency exchange on the financial performance of private commercial banks of Ethiopia and tried to provide empirical evidence that can contribute for bridging this inconsistency.

2.5 Conceptual Framework

In the recent past, Ethiopia has experienced a high foreign exchange volatility which has subsequently led to an increase in the lending interest rate by the national bank of Ethiopia. Since all the commercial banks in Ethiopia operate locally, the fluctuation of the foreign exchange rate may positively or negatively influence their performance and hence needs to be managed. There is some empirical evidence showing how foreign exchange rate influences the financial performance of commercial banks of Ethiopia. A conceptual framework is a graphical or diagrammatic representation of the relationship existing between two or more variables in a study (Mugenda and Mugenda, 2008).

Fig.2.1 Conceptual Framework



Source: Researcher‘s own Design

3 CHAPTER THREE

RESEARCH METHODOLOGY AND DESIGN

3.1 Introduction

This chapter discusses the research design and methodology of the study; it highlights a full description of the research design, the research variables and provides a broad view of the description and selection of the population. The research instruments, data collection techniques and data analysis procedure had also been pointed out.

3.2 Research Design

Research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure. Research design is needed because it facilitates the smooth sailing of the various research operations, thereby making research as efficient as possible yielding maximal information with minimal expenditure of effort, time and money. (Kothari, 2004)

This research was be adopted an explanatory type of research Design. This type of research design helps to identify and evaluate the casual relationship between different variables under consideration (Creswell, 2014). Moreover, explanatory research design would be employed to examine the relationship of dependent and independent variables. The study employed quantitative research approach. According to Creswell, 2014 quantitative research is an approach for testing hypothesis and theories by examining the relationship among variables. These variables, in turn, can be measured, typically on instruments, so that numbered data can be analyzed using statistical procedures. Since this paper is concerned with the study of the relationships between the variables and analysis of the causal relationship among these variables using numerical data and statistics, quantitative approach is appropriate in this regard. The design was appropriate as it allows the description and interpretation of existing relationships, and comparison of variables under the study. In this study, the relationship between foreign exchange rate and financial performance of private commercial banks was determined. The dependent variable in this regard was represented by financial performance and the

independent variables will be represented by foreign exchange rates, interest rate spread, and Bank size and inflation rate.

3.3 Population Size and Sampling Techniques

As of Jan 2019, there were eighteen commercial banks in Ethiopia. These are Commercial bank of Ethiopia, Awash International Bank S.C, Bank of Abyssinia S.C, Wegagen Bank S.C, United Bank S.C, Nib International Bank S.C, Dashen Bank S.C, Development Bank of Ethiopia, Cooperative Bank of Oromia S.C, Lion International Bank S.C, Zemen Bank S.C, Oromia International Bank S.C, Buna International Bank S.C, Berhan International Bank S.C, Abay Bank S.C, Addis International Bank S.C, Debub Global Bank S.C, and Enat Banks S.C. However, from the above listed banks, Development Bank of Ethiopia and Commercial bank of Ethiopia are not private commercial bank. (NBE,2019)

According to Kothari (2004), good sample design must be viable in the context of time and funds available for the research study. Accordingly, this study employed purposive sampling technique(the reason the researcher choose purposive sample is the bank which are subjected in this study were private commercial banks and relatively similar revenue) to select the sample of banks from the above listed banks since it is viable in line with time and funds available for this study. This sampling method is a form of non-probability sampling in which decision concerning the individual source of data included in the sample was be taken by the researcher, based upon variety of criteria.

The selection criteria set by the researcher were two; first, the required banks were only private commercial banks in Ethiopia because the researcher believes moreover the banks‘ capital and revenue relatively similar. Second, these commercial banks should operate after 2019/2020and before 2018/19 having financial statements for consecutive twenty years because the researcher believes twenty years data was sufficient for this study. Detail of the selected banks are listed below in table 3:1 these banks included Awash International Bank S.C, Dashen Bank S.C, Bank of Abyssinia S.C, Wegagen Bank S.C, United Bank S.C, and NIB International Bank S.C

Table 2 List of sampled commercial banks

s/no	Name of The Bank	Years of Establishment	Ownership	Capital (billion)
1	Awash International Bank S.C	1994	Private	8,095.9
2	Dashen Bank S.C	1995	Private	5.464.4
3	Abyssinia Bank S.C	1996	Private	4,179.2
4	Wegagen Bank S.C	1996	Private	4137.1
5	United Bank S.C	1998	Private	4,374.5
6	Nib Bank S.C	1999	Private	4,950.8

Source: NBE 2019/2020

3.4 Nature, Source of Data, Collection Methods &Instruments

This study used secondary panel data set for Ethiopian private commercial banks between 2000 and 2019, for twenty years. Six banks operating in Ethiopia during the period under the study was included in the panel data set. A secondary source of data is preferred by the researcher since it is less expensive in terms of time and money while collecting. And also, it affords an opportunity to collect high quality data (Saunders et al., 2007) cited in (Gadise, 2014).

Accordingly, secondary data was obtained from the audited annual financial statements of the concerned private commercial banks in Ethiopia. These data include both bank specific and macroeconomic factors. Bank-specific data was be mined from annual reports and statement of accounts of the selected banks. Data on macroeconomic variable (Inflation & Foreign exchange Rate fluctuations) was be collected from annual report bulletins published by the National Bank of Ethiopia (NBE) and Ministry of Trade (MOT), formerly called Ministry of Finance and Economic Development (MoFED)).

3.5 Data Analysis

As noted by (Kothari, 2004), after completion of collection and sorting, data has to be analyzed in line with the purpose of the research plan. Accordingly, secondary data will be collected from annual financial statements of the concerned commercial banks in Ethiopia: NBE and Ministry of Trade. Then the data were analyzed using econometric software package (Stata 13) to examine the Impact of foreign currency exchange fluctuation on financial performance of private commercial banks in Ethiopia.

To achieve the research objective, this paper primarily was be based on panel data was collected through structured document review. Thus, the collected panel data was be analyzed using descriptive statistics and multiple linear regression analysis. Mean values and standard deviations was be used to analyses the general trends of the data from 2000 to 2019 based on the industry samples of six commercial banks. For this study, the regression analysis known as OLS will be used to estimate the relationship between financial performance as measured by ROE and exchange rate volatility, inflation, bank size and interest spread factors. Multiple linear regressions model is running to manipulate the causal relationship among the study variables, and thus, OLS was conducted using Stata 13 econometric software package, to describe the relationship between foreign exchange rate volatility and financial performance of private commercial banks will be determine.

This study also conducted its data analysis based on private commercial banks operating in Ethiopia over the period from 2000-2019. In examining the Effects of exchange rate on financial performance of private commercial banks in Ethiopia, this study used panel data procedures since panel contains data across different banks and over time. To this end, the researcher used panel data methodology to examine the Impact of foreign currency exchange fluctuation on financial performance of private commercial banks in Ethiopia.

3.6 Model Specification

In order to effectively study the effect of foreign currency exchange rate volatility on financial performance of private commercial banks in Ethiopia, the researcher derived a multiple regression model as depicted below.

$Y= \beta0+\beta1X1+\beta2X2 +\beta3X3+\beta4X4 +€$

Where: ROE(Y) = Profitability of banks (return onequity)

$\beta0$ = Constant(y-intercept)

$\beta1$- $\beta4$=coefficient parameter

X1= Foreign exchange Rate (exchange rate of United States Dollar to Birr) X2 = Interest Rate Spread (Lending Rates- Interest rate on deposits)

X3= Inflation (Consumer Price Index) and

X4= Size of the Bank (Natural log of Total Assets)

€ = Error term.

3.7 Definition of Research Variables

3.7.1 Dependent variables

- Return to Equity(ROE)

  There three types of major profitable measurements which are Return on Asset, Return on Equity and Net Interest Margin, for this study the researcher used Return on equity as dependent variable because it shows, the ratio of net profit to equity and measures the extent to which the bank‘s management is generating returns using the equity of the bank‘s shareholders. (Hoyle et al,2011).

3.7.2 Independent variables

- **Foreign exchange rate**

For this study the researcher uses Foreign exchange rate as independent variable to measure the effect foreign currency exchange rate on the financial performance private commercial banks of Ethiopia. Official exchange rate ETB to USD will use for this study because the major trading currency in the international trade is USD. The data mined from NBA, annual average exchange rate ETB to USD report. Some local researcher conclude that effect is foreign exchange rate are negative and significant affect the performance commercial banks. (Tadesse (2015), Amezenech (2018); and Biruk (2012) and in opposite like Lake (2013) the effect of foreign exchange rate is insignificant effect on the performance banks.

- **Interest rate spread**

For this study the researcher will use Interest rate spread as independent variable to measure the effect foreign currency exchange rate on the financial performance private commercial banks of Ethiopia. The researcher calculated Interest rate spread of each banks by using of maximum loan rate minus minimum deposit rate. In literature review Lake (2013) and (Tadesse (2015), lending interest rate found to have statistically insignificant and significant negative impact on the bank profitability in Ethiopia respectively.

- **Inflation rate**

For this study the researcher uses Inflation rate as independent variable to measure the effect foreign currency exchange rate on the financial performance private commercial banks of Ethiopia. The researcher use consumer price index to measure the inflation rate because consumer price index which is a measure of the overall cost of goods and services brought by a typical consumer. (Mankiw, 2003) and data mined from MOT, annual average CPI report. For instance Ahmed (2015) concludes his research that inflation has negative effect on bank performance.

- **Bank size**

For this study the researcher will use Bank size as independent variable to measure the effect foreign currency exchange rate on the financial performance private commercial banks of Ethiopia. Natural logarithm of total asset used to measure bank size of each banks because banks high hold asset rather than deposit. According to (Wild, 2010) and Ahmed, (2015) Large banks exploit the economies of scale and thus have more efficiency as compared to small organizations in other word bank size has positive effect on bank performance.

Table 3 Definition and measurement of variables

Variable	Definition	Measurement
Y	Return on Equity – ROE	This was measured by using of banks ROE ratio; this will use as the measure of financial performance.
X1	Foreign exchange Rate	This was measured using by annual exchange rate of USD to ETB
X2	Interest Rate Spread	This was evaluated by lending interest rate minus depositor interest rate.
X3	Inflation	This was measured using the average annual Consumer Price Index.
X4	Bank Size	This was evaluated by the Natural log of Total Assets

Source: self –Extracted

3.8 Diagnostic Tests

Diagnostic tests on the assumptions of classical linear regression model will be done to ensure that the quality of quantitative assessment is valid. This includes test of heteroscedasticity, multicollinearity, autocorrelation and the normality. Heteroscedasticity occurs when the variance of error term is not constant. The presence of heteroscedasticity makes the standard errors wrong and hence any inferences made could be misleading. The study will employ the famous Whites teste for the existence of heteroscedasticity. The Normality of the model was tested by using degree of skewness and kurtosis. Multicollinearity will be conducted on the regression model so that incorrect conclusions about the relationship between dependent variable and predictor variables were to be avoided. Variance Inflation Factor (VIF) and tolerance degree were also used to indicate for presence of multicollinearity. Autocorrelation; is assumed that the distribution errors are uncorrelated with one another and that the errors are linearly independent of one another. To test this assumption this study used Durbin Watson test to check for the existence of serial correlation among error terms as recommended by.Brook(2008)

4 CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

The preceding chapter presented the research methods adopted in the study. This chapter analyzed and interpreted the impact of foreign currency exchange fluctuations on the financial performance of the banking sector in Ethiopia, using the annual balanced panel data, where all the variables were observed for each cross-section and each time period. The study has a time series segment covering from the period 2000 up to 2019 and a cross section segment which considered six private commercial banks. This chapter is organized into four sections. Section one discusses descriptive statistics and correlation analysis. Section two presents model specification & tests for the classical linear regression model assumptions. Section three presents discussion of results and the chapter is concluded by a summary of the chapter.

4.2 Descriptive Statistics

This section presents the descriptive statistics of dependent and explanatory variables used in this study. The dependent variable used in this study was profitability of banks (ROE) and the independent variable includes foreign currency exchange rate fluctuations (Ethiopian Birr to United States Dollar), Interest Rate Spread (Lending Rates- Interest rate on deposits), Inflation (Consumer Price Index) and Size of the Bank (Natural log of Total Assets).

Table 4 Descriptive Statistics of Secondary Data

```
. summarize ROE USDBIRR irspread inflation Asset_Size
```

Variable	Obs	Mean	Std. Dev.	Min	Max
ROE	120	.2491583	.1020205	-.01	.522
USDBIRR	120	14.3675	6.282457	8.14	26.11
irspread	120	.1699	.2487104	.043	.99
inflation	120	.091635	.0767007	-.011	.332
Asset_Size	120	8.556333	1.433	4.96	10.87

Source: Stata 13 output

The descriptive analysis which talks about the study variables over the study period are shown by Table 4. ROE computed by dividing NIBT by Total capital has a mean of 24.91 percent. This implies that The Ethiopian private commercial banks got 24.91 percent of each birr invested averagely. On the other hand The banks have relatively good performance measured by ROE .The maximum and minimum value of ROE was 52.2 and -1 percent respectively. This indicate that most profitable and least profitable banks earned 52.2 and -1 cents per one birr of investment. And the standard deviation of ROE was 10.2 percent this was relatively low and it is an indication that most of the observations are concentrated around the mean value.

Exchange Rate (annual average exchange rate) was the first independent variable for this study so it has an average of Birr 14.36 per USD with a minimum of 8.14 Birr per USD, and maximum of Birr 26.11 Birr per USD and standard deviation of Birr 6.28 per USD. This indicate that ETB had been depreciated by 220.76% during the last 20 years (2000-19) so it has negative and significant effect on profitability of private commercial banks.

Inflation rate (consumer price Index) was also the second independent variable for this study so it has a minimum of -1.1% and maximum of 33.20%, and a standard deviation of 7.67 % and a mean of 9.1%. On average the 9.1 percent the purchasing power of money decreased during for last 20 years. So it has negative and significant effect on profitability of private commercial banks.

Interest Rates (leading rate- saving rate) spread was also the third independent variable for this study so it has a minimum of 4.3%, and a maximum of 99% with standard deviation of 24.8%, and a mean of 16.99%. This means on average Ethiopian private commercial banks got 16.99 percent of profit for each birr they lend.

Bank Size (natural log total asset) had a minimum of Birr 9.02 million and maximum of 20.42 Billion, standard deviation 1.433 and a mean of (8.55) 1.84 Billion. On average bank size Ethiopians commercial banks owned 1.84 Billion. So it has positive and significant effect on profitability of private commercial banks.

4.3 Diagnostic Tests

This section presents and discusses the result of Diagnostic tests. Diagnostic tests on the assumptions of classical linear regression models were done to

ensure that the quality of quantitative assessment was valid. These include heteroscedasticity, multicollinearity, autocorrelation and the normality test.

4.3.1 Heteroscedasticity test

The homoscedasticity is one of the assumptions of the CLRM which states that the variance of the errors must be constant. Heteroscedasticity occurs when the variance of error term is not constant. The presence of heteroscedasticity makes the standard errors wrong and hence any inferences made could be misleading. To test for the presence of heteroscedasticity, the popular white test was employed (Brooks 2008). The *p*-value should be bigger than 0.05 to not reject the null at 5% significance the 5% level.

Table 5 Heteroscedasticity; Cook-Weisberg Test Secondary Data

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
Ho: Constant variance

Variable	chi2	df	p
irspread	2.37	1	0.1236 #
inflation	1.68	1	0.1953 #
Asset_Size	1.81	1	0.1786 #
simultaneous	4.49	3	0.2135

Source: Stata 13 output

Accordingly, Table 5 shows that the probability of chi-square test gave the same conclusion that there is no significant evidence for the presence of Heteroscedasticity in the ROE model. Since the p-value were above 0.05, which dictated that there is no evidence for the presence of the heteroscedasticity.

4.3.2 Multicollinearity test

This assumption is concerned with the relationship that exists among explanatory variables. An implicit assumption that is made when using the OLS estimation method is that the explanatory variables are not correlated with one another (Brooks2008). On the other hand, multicollinearity means that there is linear relationship between explanatory variables which may cause the regression model biased (Gujarati, 2004). Thus a correlation matrix of the explanatory variables was used to test for the existence of

multicollinearity. As stated by Hair et al. (2006) correlation coefficients below 0.9 may not cause serious multicollinearity problem. In addition to this the variance of inflation factor (VIF) was used to test for the existence of this problem. If the results showed that the variance of inflation factor VIF is more than 10, the regression results would be affected by a multicollinearity problem (Gujarati 2004). Accordingly, in this study there was no problem of multicollinearity, because as per the results of Table 6 and 7 below the maximum correlation was 0.8834 and the mean VIF was 1.33 both of which were below the standard 0.9 and 10 respectively, which enhanced the reliability for regression analysis.

Table 6 Correlation table of Independent Variables

```
. . corr USDBIRR irspread inflation Asset_Size
(obs=120)
```

	USDBIRR	irspread	inflation	Asset_Size
USDBIRR	1.0000			
irspread	0.4609	1.0000		
inflation	0.2729	-0.0908	1.0000	
Asset_Size	0.8834	0.3784	0.3795	1.0000

Table 7 Variable Inflation Factor of Independent Variables

```
. . vif
```

Variable	VIF	1/VIF
Asset_Size	1.46	0.684121
inflation	1.26	0.791838
irspread	1.26	0.792630
Mean VIF	1.33	

Source: Stata 13 output

4.3.3 Normality test

According to (Brooks, 2008) in order to conduct hypothesis test about the model parameters, the normality assumption must be fulfilled. Normality test was carried out to verify if the residuals of the error terms are normally distributed. In this study, the

normality of the data was checked with the popular Jarque-Bera statistic test. (Brooks, 2008) noted that the Jarque-Bera statistic would not be significant for disturbance to be normally distributed around the mean. The *p*-value should be bigger than 0.05 to not reject the null of normality the 5% significance level

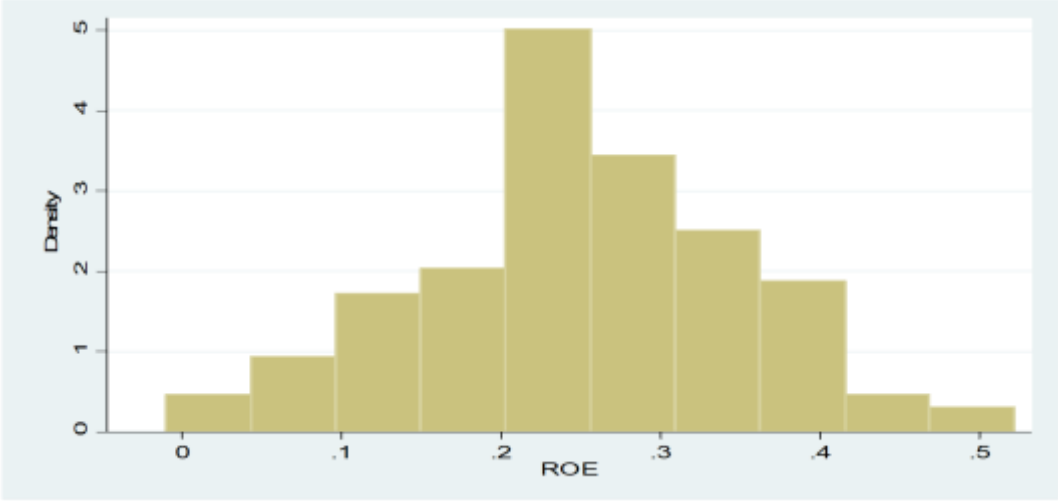
Table 8 Kurtosis and Skewness Test of Normality

Skewness/Kurtosis tests for Normality

Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	joint chi2(2)	joint Prob>chi2
USDBIRR	120	0.0154	0.0000	42.34	0.0000
irspread	120	0.0000	0.0000	68.17	0.0000
inflation	120	0.0000	0.0002	47.48	0.0000
Asset_Size	120	0.0885	0.0448	6.93	0.0313

Source: Stata 13 output

hist ROE (bin=10, start=-.01, width=.0532)



Source: Stata 13 output

On top of this a requirement of kurtosis close to 3 and skewness close to 0 was satisfied by the output of Table 8 which indicates a Kurtosis and skewness of 0.0448 and .0885 respectively. Therefore, this study concludes that the residuals of the error

terms were normally distributed around the mean, and there was no the problem of normality on ROE Model.

4.3.4 Autocorrelation

According to (Brooks, 2008), third assumption of the CLRM said that disturbances of the error terms of and covariance between the error terms over time (or cross-sectional, for that type of data) should be equal to Zero. In other words, it is assumed that the errors terms were uncorrelated with one another. If the errors are not uncorrelated with one another, it would be stated that they are –Auto correlated‖or that they are said to be –serially correlated‖. To identify the effect of exchange rate volatility on Ethiopian private commercial banks, profitability as measured by ROE, 120 (6*20) observations were used in the regression model.

Table 9 Durbin Watson Test for Serial Correlation

```
. tsset time
        time variable:  time, 1 to 120
                delta:  1 unit

. dwstat

Durbin-Watson d-statistic(  5,   120) =  1.615909
```

Source: Stata 13 output

The Durbin-Watson statistic ranges in value from 0 to 4. A value near 2 indicates non autocorrelation, a value toward 0 indicates positive autocorrelation; a value toward 4 indicates negative autocorrelation (Hair et al. 1998). Having 120 observations with four independent variables the result of DW test as shown in Table 9 above was 1.61 which is closer to 2 indicated that the null hypothesis cannot be rejected. Therefore, there was no evidence of autocorrelation among error terms in this study.

4.4 Correlation analysis

The correlation between two variables measures the degree of linear association between them. If it is stated that y and x are correlated, it means that y and x are being

treated in a completely symmetrical way. Thus, it is not implied that changes in x cause changes in y, or indeed that changes in y cause changes in x. rather, it is simply stated that there is evidence for a linear relationship between the two variables, and that movements in the two are on average related to an extent given by the correlation coefficient. The values of the correlation coefficient are always between -1 and +1. A correlation coefficient of +1 indicates that the two variables are perfectly related in a positive linear sense; while a correlation coefficient of -1 indicates that two variables are perfectly related in a negative linear sense. A correlation coefficient of 0, on the other hand indicates that there is no linear relationship between two variables (Brooks, 2008). In this study, Karl Pearson‘s coefficient of correlation was employed in establishing the relationship that existed between the study variables.

Table 10 Correlation Matrix of Dependent and Independent Variables

```
. . corr ROE USDBIRR irspread inflation Asset_Size
(obs=120)
```

	ROE	USDBIRR	irspread	inflat~n	Asset_~e
ROE	1.0000				
USDBIRR	0.1511	1.0000			
irspread	-0.0429	0.4609	1.0000		
inflation	0.5125	0.2729	-0.0908	1.0000	
Asset_Size	0.4827	0.8834	0.3784	0.3795	1.0000

Source: Stata 13 output

As per the correlation matrix in Table 10 produced statistical evidence that ROE has a positively linear relationship with asset size and inflation rate with correlation coefficient of 0.4827 and 0.5125 respectively. The correlation matrix table also showed that ROE has a positive linear relationship with foreign exchange rate with correlation coefficient of 0.1511, implying that as the exchange rate increased, ROE goes increasing in the opposite direction, and Interest rate spread was negatively correlated with ROE with correlation coefficient of 0.0429.

4.5 Model Specification: Fixed Effect vs. Random Effect

The data collected for this study were estimated based on panel data model, which includes cross sectional and time series observations. In this study the cross sectional units were Awash Bank, Bank of Abyssinia, Dashen Bank, Nib Bank, United Bank and Wegagen Bank for a time series of 20 year starting from 2000 to 2019. According to Brooks (2008), to run regression analysis using panel data there are broadly two classes of panel estimator approaches available that can be employed in financial research. These are fixed effects models and random effects models. It is often said that the random effects model is more appropriate when the entities in the sample can be thought of as having been randomly selected from the population, but a fixed effect model is more plausible when the entities in the sample effectively constitute the entire population. In this study Hausman test has been conducted to choose between fixed effect and random effect regression model. The Null hypothesis in Hausman test is that; random effect model is appropriate, while the alternative hypothesis of Hausman test is: fixed effect model is appropriate. As shown in Table 11 below, the Hausman test with a p-value of 0.8650 which is greater than 0.05, implies that the test fails to rejected the Null hypothesis which is random effect model is appropriate in favor of the alternative hypothesis that is fixed effect model is appropriate at 5% significance level. Therefore, random effect model is adapted to regress the annual return to equity (ROE) against the four explanatory variables Foreign exchange Rate fluctuation, interest rate spread, and inflation rate and asset size.

Table 11 Hausman test of specification

```
. hausman fixed .

                 ---- Coefficients ----
             |      (b)          (B)            (b-B)     sqrt(diag(V_b-V_B))
             |    fixed       random       Difference          S.E.
-------------+------------------------------------------------------------
  Asset_Size |   .0935009    .0977341      -.0042332        .0037439
   inflation |   .4131621    .4012461       .011916         .0098716
    irspread |  -.0038695   -.0039888       .0001193              .
     USDBIRR |  -.0176928   -.0185039       .0008111        .0007156
------------------------------------------------------------------------------
                           b = consistent under Ho and Ha; obtained from xtreg
            B = inconsistent under Ha, efficient under Ho; obtained from xtreg

    Test:  Ho:  difference in coefficients not systematic

                  chi2(4) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                          =        1.28
                Prob>chi2 =      0.8650
                (V_b-V_B is not positive definite)
```

Source: Stata 13 output

4.6 Regression Analysis

In the previous sections, different tests were made to check whether the CLRM assumptions are maintained or not. Descriptive statistics and correlation analysis among variables were also presented. This section presents the overall results of the regression analysis on the foreign exchange rate and financial performance of private commercial banks is depicted here below:

Where: ROE(Y) = Profitability of banks (Return to Equity)

β0 = Constant (y-intercept)

Foreign exchange Rate fluctuations (Ethiopian Birr against the United States Dollar)

Interest Rate Spread (Lending Rates-Interest rate on deposits)

Inflation (Consumer Price Index) and

Size of the Bank (Natural log of Total Assets) € = Error term.

In this study ROE was used as proxy for performance measure. The random effect regression analysis result was presented by using the following table.

Table 12 Random Effrect Regression Output

. . reg ROE USDBIRR irspread inflation Asset_Size

Source	SS	df	MS	Number of obs =	120
				F(4, 115) =	54.21
Model	.809332776	4	.202333194	Prob > F =	0.0000
Residual	.429239875	115	.003732521	R-squared =	0.6534
				Adj R-squared =	0.6414
Total	1.23857265	119	.010408174	Root MSE =	.06109

ROE	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
USDBIRR	-.018897	.001994	-9.48	0.000	-.0228468	-.0149472
irspread	-.0040466	.0262334	-0.15	0.878	-.0560098	.0479166
inflation	.3954714	.0822545	4.81	0.000	.2325411	.5584017
Asset_Size	.0997856	.0087646	11.39	0.000	.0824245	.1171466
_cons	-.3686892	.0506633	-7.28	0.000	-.4690435	-.2683349

Source: Stata 13 output

R-Squared: according to Wooldridge (2012), R-squared measures goodness of fit, a value of R- squared close to one indicates that the independent variables explain much of the variation in the dependent variable in the sample. This means that the dependent and independent variables are highly correlated. Simply speaking, R-squared is the proportion of the total variation in the dependent variable that can be explained by the other independent variables appearing in the equation.

According to Brooks (2008), the most common goodness of fit statistic is known as R-squared. One way to define R-squared is to say that it is the square of the correlation coefficient between y and ˆy, that is, the square of the correlation between the values of the dependent variable and the corresponding fitted values from the model. A correlation coefficient must lay between−1 and +1 by definition. Since R-squared defined in this way is the square of a correlation coefficient, it must lie between 0 and 1. If this correlation is high, the model fits the data well, while if the correlation is low (close to zero), the model

is not providing a good fit to, further the loss of degrees of freedom associated with adding extra variables is known as adjusted R- squared.

As per Table 12, above the R-squared value 0.6534 meaning 65.34% of the variance in the model could be predicted using the independent variables or in simple words 65.34% of return on equity is explained by the constructed independent variables. However, the remaining 34.66% changes in return on equity in private commercial banks in Ethiopia are caused by other factors that are not included in the model. Therefore, the constructed model for return on equity (such as exchange rate, inflation rate, interest spread and asset size) are good explanatory variables of the factors for determining the effect of foreign exchange rate volatility on the financial performance of private commercial banks and thus the model was a good fit of the data. The adjusted R- squared value of 0.6414 tells us that after taking in to account the loss of degree of freedom by adding one or more independent variables, indicates that the model is fit enough to estimate the private commercial banks financial performance (ROE). Therefore, standing from the adjusted R-squared value 64.14% of the model, it possible to infer that on average 64.14% of dependent variable (ROE) variation is explained by this model independent variables and the remaining 35.89% variation in the selected private commercial banks performance (ROE) may be explained by other explanatory variables which are not included in the model.

P-value: in a two-tail p-values test the hypothesis that each coefficient is different from 0. To reject this, the p-value has to be lower than 0.05 (95%, researcher could choose also an alpha of 0.05, if this is the case then researcher can say that the variable has a significant influence on the study‘s dependent variable (y), accordingly as shown in table 4.11 above the p-values of the independent variables namely exchange rate, interest rate spread, inflation rate and asset size were 0.000, 0.878, 0.000 and 0.000 respectively, implying that the independent variables exchange rate, inflation rates and asset size were significant at 1% significance level, whereas the independent variables interest rate spreads were found to be insignificant.

F-test: According to Brooks (2008), the F-test is an analysis of the variance of a regression. It can be used to test for the significance of a group of variables or for a restriction, meaning that joint hypothesis can be tested by the analysis of variance (ANOVA).The Null hypothesis for joint significance of a model; H0:$\beta 2=\beta 3=0$, is a joint

hypothesis that β2 and β3 are jointly or simultaneously equal to zero. Accordingly, the joint F statistical probability of this study was 0.0000 and the statistic tests criteria earlier the null hypothesis that all the regression coefficients are equal to zero. Therefore, based on the decision criteria the probability of F stat 0.0000 this study confirmed that overall or jointly the model was reliable and valid and statistically also significant.

A .**Foreign exchange Rate (Ethiopian Birr changes against the United States Dollar)**

The aim of study was to determine what effects do foreign exchange rates have on the financial performance of the private banking industry in Ethiopia. To accomplish this, Random effect regression analysis was used. The results obtained showed that Exchange Rate had coefficient of -.018897 and p-value of 0.000. Holding other independent variables constant this finding implied that at their average value, the Exchange Rates do not only have a negative effect on the financial performance, it is also statistical significant at 1% significance level. This negative relationship implied that holding other things constant a 1 unit increase in foreign exchange rate (depreciation of the Ethiopia Birr against the United States Dollar) on average results in a -.018897 (P-value, 0.000) unit decrease in financial performance of private commercial banks which measure by ROE and statistical significant at 1% level. Therefore, there is significant negative relationship between with foreign exchange rate (usdbirr) and ROE of Ethiopian private commercial banks.It was hypothesized that Foreign exchange Rate volatility (Ethiopia Birr changes against the United States Dollar) has negative and significant effect on profitability (Return on Equity) of private commercial banks, the result of this empirical study showed that foreign exchange rate has significant and negative impact on profitability (ROE). Therefore, the researcher accepts the null hypothesis that Foreign Exchange Rate has negative and significance effect on ROE.

The finding of this result was in line with Tadesse (2015), Ahmed (2015), Opaluwa, Umeh and Ameh (2010) and Amezenech (2018). The possible reason for the significant negative relationship between foreign Exchange Rate and Rate of Return on Equity of sampled commercial banks is that when the value of local currency depreciated, which means that in many private commercial banks of Ethiopian there was a deficit of foreign currency, this is due to low amount of export taken from their customer, income generated form remittance of foreign currency was very low by banks and earnings from

service charges of foreign transaction like Letter of credit(LC) and Cash against document was minimum.

B. Interest Rates Spread (Lending Interest Rate-Deposit Interest Rate)

Interest Rates spread is average lending interest rate minus average deposit interest rate which indicates a net interest price which is the borrower has to pay for loan and other debt services. As per the Random effect regression analysis results, the Interest rate spread has coefficient of -.0040466 and p-value of 0.878 , meaning that holding other independent variables constant at their average value, one unit increase in interest rates spread (lending interest rates-Deposit interest rates) on average results in 0.4% decrease in (ROE) financial performance of private commercial banks but this was statistical insignificant. This means Interest rate spread has a negative effect on the ROE (performance of private commercial banks) and statistically insignificant at 10% significance level.

Therefore, the researcher rejects the earlier estimated null hypothesis that there is positive and significant relationship between interest rates spread and ROE. Because of the result of this empirical study showed that interest rates spread had insignificant and negative effect on profitability (ROE).The possible reason for the insignificant negative relationship between interest rates spread and Rate of Return on Equity of sampled commercial private banks in Ethiopia could be the outcome of the last twenty year‘s devaluation of the local currency ETB which continues to depreciate relative major foreign hard currency (USD).This is a major cause for the current interest rate and inflation rate values. So when purchasing power of money (ETB) declined the lending rate would increase. This implies that interest rates are high in Ethiopia Banking Sector as a result of this borrowing became expensive to customers. High interest rates tend to discourage people from borrowing.

C. **Inflation (Consumer Price Index)**

As per the above Random effect regression output in table 4.8 presented that, Inflation rate with a coefficient of 0.3954714 and P-value of 0.000 implies that, holding other independent variables constant at their average value, when the Inflation Rate (CPI) increase by one percent, return on Equity (ROE) of sampled Ethiopian private commercial banks on average would increase by 39.54% and found to be statistically

insignificant at 10% significant level. Therefore, there is insignificant and positive relationship between Inflation Rate and ROE of Ethiopian private commercial banks. It was hypothesized that Inflation Rate (CPI) has negative and significant impact on profitability (Return on Equity) of private commercial banks, the result of this empirical study showed that Inflation Rate (CPI) has insignificant and positive effect on profitability (ROE). Therefore, the researcher rejects the null hypothesis that Inflation Rate has a significant and negative relationship to ROE.

D. **Size of the Bank (Natural LOG of Total Assets)**

In respect to the model specifications, the bank size was proxy by the natural logarithm of total assets. From the Random effect regression analysis result, size of the bank had a coefficient of 0.0997856 and p-value of 0.000. This means that holding other variables constant a 1% change (increase) in asset size generates on average 0.10 unit change (increase) in Return to Equity (ROE).Therefore, there is significant and positive relationship between Asset size (natural log of total asset) and ROE of Ethiopian commercial banks. In this regard, the researcher accepted the earlier estimated null hypothesis that there is positive and significant relationship between Asset size and ROE, because the result of this empirical study showed that asset size has significant and positive impact on profitability (ROE).This result was in line with the finding of (Ahmed, 2015) who state that large banks may exploit economies of scale and this enables them acquire more client and undertaking more transactions which translate into more returns. Additionally, the large banks tend to be more trusted by the customers and this implies more clients will opt to invest in them as opposed to the smaller ones. (Liebeg& Schwaiger, 2006 and Maudos & Guevara, 2004) suggested a positive relationship between the size of a bank and ROE. However, the literature presented contrasts these results (Fungacova & Poghosyan, 2009) argue that due to increased economies of scale, banks that maintain sufficient asset should benefit from their size and have lower margins.

5 CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter comprises of three areas, to be specific run down, conclusions, and proposals taking after that arrange. The primary segment gives a outline of the critical components of the think about which incorporates the consider destinations, technique and the discoveries. The moment area talks about the major discoveries of the think about with respects to the particular goals. The third segment talks about the conclusions based on the particular destinations, whereas utilizing the discoveries and results which are gotten with in the fourth chapter.

5.2 Summary of Findings

The primary objective of the ponder was to set up an understanding on the impact of foreign currency exchange fluctuation on financial performance of commercial Banks in Ethiopia. The populace beneath consider was eighteen commercial Banks. Purposive examining procedure was utilized, since it has an advantage in that it empowers to get information from each of the bank which is able provide more noteworthy precision and unwavering quality. Examination of auxiliary information was utilized with in the consider and information was gotten from private commercial banks yearly inspected monetary explanations, National Bank of Ethiopia and MoF. To carry out this study about, a Multiple linear regression model was utilized comprising of the Return to Value (productivity of banks) as the subordinate variable, whereas foreign exchange rate, interest rate spread, swelling rate, and Bank estimate as autonomous factors. Advance Clear measurements was utilized with in the ponder to provide point by point data approximately each of the factors beneath consider. Information was dissected with the utilize of STATA 13 statistical software. Some time recently making the relapse investigation, the ponder went through all underneath recorded demonstrative tests; counting multicollinearity, heteroscedasticity; ordinariness and autocorrelation. Through these tests the classical straight relapse demonstrate and OLS presumptions has been checked by utilizing STATA 13 computer program bundle. Relapse Investigation was distinguished as the foremost suitable device for econometric investigation of money

related information. The expressive measurement sun covered all the factual values of the collected secondary data. On top of this the assumptions needed to be fulfilled for OLS were tried; the information was found to be homoscedastic, free of autocorrelation and free of Multicollinearity and residuals were regularly distributed.

- Foreign exchange rate: there's a solid and negative relationship between remote trade rate variances and the execution of commercial banks in Ethiopia within the think about period. This implies holding other things consistent a 1 unit increment in remote trade rate (devaluation of the Ethiopia Birr against the Joined together States Dollar) on normal comes about in a -0.0188 (P-value, 0.000) unit diminish in budgetary execution of private commercial banks which degree by ROE and measurable noteworthy at 1% level. The finding of this result was in line with Tadesse (2015), Ahmed (2015),Opaluwa, Umeh and Ameh (2010) and Amezenech (2018). Furthermore, the Ethiopia Birr trade rates against the Joined together States Dollar were watched to be exceptionally tall amid the think about period, meaning that the Ethiopian cash has been devaluing in values against the dollar over the lateral long time and this devaluation has had a negative affect on the returns of commercial banks in Ethiopia. From the finding of the irregular impact relapse result analyst too concludes that remote trade rate has negative impact on the productivity of private commercial banks in Ethiopia.
- Interest Rate Spread: The distinction in rates named as intrigued rate spread had a negative relationship with the execution of commercial banks in Ethiopia. meaning that holding other free factors steady at their normal esteem, one unit increment in intrigued rates spread (loaning in trigued rates-Deposit intrigued rates) on normal comes about in 0.4% diminish in (ROE) monetary execution of private commercial banks but this was factual in consequential. The consider concludes that intrigued rates particularly loaning rates have been expanding over time though the same perception was not prominent in store rates by banks (least store rate is set by NBE). The think about hence concludes that the interest rates spread has been increasing in the recent years leading to expensive borrowing costs, in this way productivity got to be exceptionally little. This hence deciphered to higher returns by banks since clients pay more and win less when they make stores in banks. Intrigued rates can too impact cash values. In case intrigued rates are tall in a certain nation, it tends to extend the request for their cash and increment the currency's esteem. In case the outside country chooses to decrease intrigued rates, it can cause request for the cash to drop coming about in a declining currency value.

- Inflation: Swelling rates have been expanding ceaselessly over the complete consider period. The relationship between swelling and the execution of private commercial banks in Ethiopia was positive and inconsequential. This implies holding other autonomous factors steady at their normal esteem, when the Expansion Rate (CPI) increment by one percent, return on Value (ROE) of examined Ethiopian private commercial banks on normal would increment by 39.5% and found to be measurably in consequential at 10% noteworthy level; consequently it emphatically influences the monetary performance. Inflation is another figure that creates it more hazardous to hold near by cash since when swelling increment the esteem of neighborhood cash depreciates and devalued neighborhood cash had reduced obtaining control cash. In the event that swelling rises in one nation it can make their cash value fall with regard to monetary standards in other nations that don't involvement the same increment in expansion. Swelling is troublesome to foresee and based to a great extent upon desires and the financial arrangement of the government. For occasion, on the off chance that a certain nation chosen to print a expansive sum of un used money to pay off obligations, it would likely lead to expansion which might cause the esteem of the money to decline rapidly.
- Size of the Bank: there's a solid positive relationship between Estimate of the bank and the execution of commercial banks in Ethiopia within the think about period. This implies that holding other factors steady a 1% alter (increment) in resource estimate creates on normal 0.099 unit alter (increment) in Return to Value (ROE). From the result of irregular impact relapse investigation, the analyst moreover concludes that a add up to resource possessed by commercial banks was expanding over the a long time. This may be somewhat due to the reality that bigger banks tend to have more noteworthy foreign-exchange operations and exchanging positions. Bigger banks may moreover have more businesses with huge and universal enterprises, of which competitiveness and productivity are touchy to exchange-rate movements. These may contribute to the more noteworthy foreign-exchange introduction of bigger Ethiopian banks.

5.3 Conclusion

The objective of this study was to determine the impact of foreign currency exchange fluctuation on finance performance of private commercial banks in Ethiopia. This ponder investigated the impacts of inflation rates, interest rate spread, foreign exchange rate fluctuation and size of the banks on the financial performance of private commercial banks in Ethiopia from 2000 to 2019. From the research finding.

5.4 Recommendations

From the inquire about discoveries, the analyst made the taking after proposals with respects to the remote trade rate, intrigued rate, expansion rate and Bank size.

- Foreign exchange rate: from the finding of this experimental consider it has been found that foreign exchange rate has Negative and significant impact on the financial performance of banks measured by ROE, in arrange to handle this critical impact: the government of Ethiopia ought to energize remote coordinate venture so as to shoot the financial development and as a result near by cash to appreciate. One way to empower and draw in FDI is through checking of the trade rate, which draws in outside speculators and their venture. The NBE might satisfactorily put a few measures to protect the esteem of the near by money, to guarantee the esteem of the neighborhood money not vary much on the day by day premise. Encourage in arrange to have a steady outside cash trade rate this district ought to have sufficient forex save by empowering trades of esteem included items to the world wide show case the country can have sufficient forex save that can be utilized as a device to oversee the change of trade rate. At last banks administration in Ethiopia should receive suitable techniques so as to relieve against outside trade dangers since it influences the execution of the banks in Ethiopia.
- Interest Rate Spread: this observational think about un covered that interest rate spreads have a negative inconsequential impact on the banks execution meaning that as the interest rate spread increments the monetary execution of banks will diminish but inconsequential, hence, The National Bank of Ethiopia might control fluctuations with in the store and loaning rates. Advertise stabilization of the keeping money division would control loaning and store rates in this way guaranteeing that the rates are nearly uniform over all banks. This would interpret to a more steady money against universal monetary standards. This would thus lower borrowing costs hence making advances indeed more reasonable. Subsequently, by bringing down the intrigued rate banks ought to oversee to pull in as numerous borrowers as conceivable, so that the salary of banks increment as a result the monetary execution of banks will too do same.
- Inflation rate: The swelling rates have been expanding annually over the whole consider period. The relationship in any case between swelling and returns on value was immaterial but emphatically influenced monetary execution of commercial banks. It was for the most part accepted that expansion rate were negative major drivers of budgetary execution of commercial banks. In any case, the finding of this ponder appears that

swelling rate have positive and insignificant effect On ROE. Meaning within the case of the result of this ponder as the expansion rate increment the budgetary execution of commercial banks moreover expanded but inconsequential. Based on this the analyst suggested that, thought expansion rates have inconsequential effect on ROE, it should be minimized to the least conceivable. One way to attain this is often through the activity of the National Bank; on the off chance that the expansion rate tend to extend over two digit level NBE must plan a component to stabilize the level of common cost by executing expand in intrigued rate through save or/and expanding save prerequisite on the sum of cash banks are lawfully required to keep on hand to withdraw or by implication diminish the Money supply by sanctioning approaches, since as expansion rate diminish the acquiring control of the nearby money increments, this in turn has an impact on stabilizing the outside trade rate.

- Size of the Bank: From the discoveries of the random effect regression model analysis it was uncovered that bank size has a positive and significant impact on financial performance of private commercial banks which was measured by ROE, suggesting that as the size of the bank increases the financial performance of the same also increases. In light of this finding the analyst in common prescribes that all the stake holders of commercial banks counting BOD, tall level, center level and lower level administrations ought to create and actualize an objective that empowers the estimate of the banks to extend, as a result when the estimate of banks got to be exceptionally expansive more trade with huge world wide organizations of which competitiveness and productivity are touchy to trade rate developments. From the finding of this experimental consider it was concluded that as the estimate of commercial banks increment the budgetary execution of the same moreover increments which was evaluated by ROE.

5.5 Suggestions for Further Research

To attain the objective of the consider, the analyst concentrated on three fundamental macro-economic factors which included intrigued rates spread, trade rates, and swelling and one banks particular calculate which is bank size. But not adequate to the complete wonder, so extra factors such as GDP development, showcase capitalization, and others ought to be examined in future thinks about. Also, the consider centered absolutely on the managing an account industry. Encourage considers can be done on other divisions and not totally the managing an account industry for occasion firms in fabricating, agribusiness, tourism and other divisions. This would give a wide pool of investigate

discoveries that can be compared over the commerce society for ideal arrangement detailing. Too, encourage considers ought to be done at a distinctive time outline so as to decide whether there will be any changes. The think about subsequently opens up a wide run of ranges in outside trade rates dangers and hazard administration which can be studied.

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APPENDICES

APPENDIX – I Descriptive Statistics of Secondary Data

```
. summarize ROE USDBIRR irspread inflation Asset_Size
```

Variable	Obs	Mean	Std. Dev.	Min	Max
ROE	120	.2491583	.1020205	-.01	.522
USDBIRR	120	14.3675	6.282457	8.14	26.11
irspread	120	.1699	.2487104	.043	.99
inflation	120	.091635	.0767007	-.011	.332
Asset_Size	120	8.556333	1.433	4.96	10.87

APPENDIX – II

```
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
        Ho: Constant variance
```

Variable	chi2	df	p
irspread	2.37	1	0.1236 #
inflation	1.68	1	0.1953 #
Asset_Size	1.81	1	0.1786 #
simultaneous	4.49	3	0.2135

Source: Stata 13 output

APPENDIX III

```
. . corr USDBIRR irspread inflation Asset_Size
(obs=120)
```

	USDBIRR	irspread	inflat~n	Asset_~e
USDBIRR	1.0000			
irspread	0.4609	1.0000		
inflation	0.2729	-0.0908	1.0000	
Asset_Size	0.8834	0.3784	0.3795	1.0000

Source: Stata 13 output

APPENDIX –IV

. . vif

Variable	VIF	1/VIF
Asset_Size	1.46	0.684121
inflation	1.26	0.791838
irspread	1.26	0.792630
Mean VIF	1.33	

Source: Stata 13 output

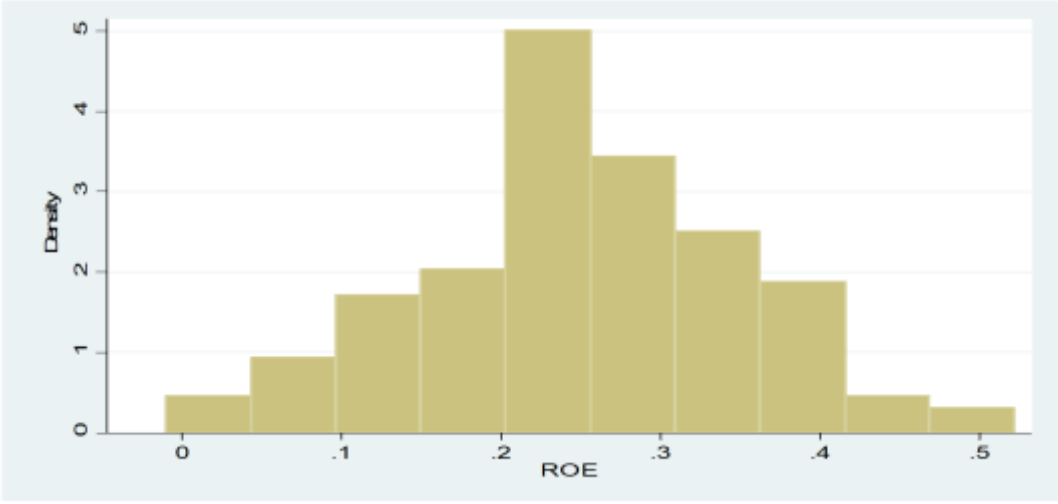
APPENDIX V

Skewness/Kurtosis tests for Normality

				joint	
Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	chi2(2)	Prob>chi2
USDBIRR	120	0.0154	0.0000	42.34	0.0000
irspread	120	0.0000	0.0000	68.17	0.0000
inflation	120	0.0000	0.0002	47.48	0.0000
Asset_Size	120	0.0885	0.0448	6.93	0.0313

Source: Stata 13 output

APPENDIX VI



Source: Stata 13 output

APPENDIX VII

```
. . corr ROE USDBIRR irspread inflation Asset_Size
(obs=120)
```

	ROE	USDBIRR	irspread	inflat~n	Asset_~e
ROE	1.0000				
USDBIRR	0.1511	1.0000			
irspread	-0.0429	0.4609	1.0000		
inflation	0.5125	0.2729	-0.0908	1.0000	
Asset_Size	0.4827	0.8834	0.3784	0.3795	1.0000

Source: Stata 13 output

APPENDIX VIII Hausman test of specification

```
. hausman fixed .
```

	—— Coefficients ——			
	(b) fixed	(B) random	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
Asset_Size	.0935009	.0977341	-.0042332	.0037439
inflation	.4131621	.4012461	.011916	.0098716
irspread	-.0038695	-.0039888	.0001193	.
USDBIRR	-.0176928	-.0185039	.0008111	.0007156

```
                b = consistent under Ho and Ha; obtained from xtreg
 B = inconsistent under Ha, efficient under Ho; obtained from xtreg

    Test:  Ho:  difference in coefficients not systematic

                  chi2(4) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                          =        1.28
                Prob>chi2 =      0.8650
                (V_b-V_B is not positive definite)
```

Source: Stata 13 output

APPENDIX IX Durbin Watson Test for Serial Correlation

```
. tsset time
        time variable:  time, 1 to 120
                delta:  1 unit

. dwstat

Durbin-Watson d-statistic(  5,   120) =  1.615909
```

Source: Stata 13 output

APPENDIX X

```
. . reg ROE USDBIRR irspread inflation Asset_Size
```

Source	SS	df	MS		
Model	.809332776	4	.202333194	Number of obs	= 120
Residual	.429239875	115	.003732521	F(4, 115)	= 54.21
				Prob > F	= 0.0000
				R-squared	= 0.6534
				Adj R-squared	= 0.6414
Total	1.23857265	119	.010408174	Root MSE	= .06109

ROE	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
USDBIRR	-.018897	.001994	-9.48	0.000	-.0228468	-.0149472
irspread	-.0040466	.0262334	-0.15	0.878	-.0560098	.0479166
inflation	.3954714	.0822545	4.81	0.000	.2325411	.5584017
Asset_Size	.0997856	.0087646	11.39	0.000	.0824245	.1171466
_cons	-.3686892	.0506633	-7.28	0.000	-.4690435	-.2683349

Source: Stata 13 output

APPENDIX XI Summary of Secondary Data

BANKS	YEAR	Asset_Size	inflation	irspread	USDBIRR	ROE
AIB	2000	6.63	0.054	0.075	8.14	0.11
AIB	2001	6.81	-0.003	0.075	8.33	0.11
AIB	2002	7.01	-0.011	0.075	8.54	0.1
AIB	2003	7.24	0.011	0.075	8.58	0.1
AIB	2004	7.48	0.073	0.075	8.62	0.18
AIB	2005	7.71	0.061	0.083	8.65	0.2
AIB	2006	7.99	0.106	0.083	8.68	0.29
AIB	2007	8.25	0.158	0.069	8.79	0.39
AIB	2008	8.48	0.044	0.069	9.24	0.3416
AIB	2009	8.77	0.085	0.069	10.42	0.3981
AIB	2010	8.98	0.081	0.054	12.89	0.3657
AIB	2011	9.22	0.332	0.069	16.12	0.3779
AIB	2012	9.39	0.241	0.043	17.25	0.3215
AIB	2013	9.61	0.081	0.069	18.19	0.2822
AIB	2014	9.9	0.074	0.66	19.07	0.3191
AIB	2015	10.08	0.101	0.075	20.1	0.2704
AIB	2016	10.3	0.073	0.99	21.11	0.2506
AIB	2017	10.6	0.0909	0.075	22.41	0.2807
AIB	2018	10.74	0.0898	0.55	26.11	0.3282
AIB	2019	10.87	0.091	0.065	26.11	0.2904

DB	2000	6.76	0.054	0.075	8.14	0.14
DB	2001	7	-0.003	0.075	8.33	0.25
DB	2002	7.3	-0.011	0.075	8.54	0.22
DB	2003	7.6	0.011	0.075	8.58	0.22
DB	2004	7.89	0.073	0.075	8.62	0.37
DB	2005	8.14	0.061	0.083	8.65	0.29
DB	2006	8.42	0.106	0.083	8.68	0.42
DB	2007	8.71	0.158	0.069	8.79	0.4
DB	2008	8.97	0.044	0.069	9.24	0.4552
DB	2009	9.18	0.085	0.069	10.42	0.3879
DB	2010	9.42	0.081	0.054	12.89	0.4079
DB	2011	9.59	0.332	0.069	16.12	0.4511
DB	2012	9.77	0.241	0.043	17.25	0.4887
DB	2013	9.89	0.081	0.069	18.19	0.3974
DB	2014	10	0.074	0.66	19.07	0.3686
DB	2015	10.12	0.101	0.075	20.1	0.3296
DB	2016	10.26	0.073	0.99	21.11	0.2831
DB	2017	10.55	0.0909	0.075	22.41	0.2454
DB	2018	10.65	0.0898	0.55	26.11	0.2262
DB	2019	10.75	0.091	0.065	26.11	0.2143
BOA	2000	6.58	0.054	0.075	8.14	0.1
BOA	2001	6.8	-0.003	0.075	8.33	0.14

BOA	2002	7.04	-0.011	0.075	8.54	-0.01
BOA	2003	7.2	0.011	0.075	8.58	0.04
BOA	2004	7.37	0.073	0.075	8.62	0.22
BOA	2005	7.63	0.061	0.083	8.65	0.24
BOA	2006	7.95	0.106	0.083	8.68	0.26
BOA	2007	8.13	0.158	0.069	8.79	0.17
BOA	2008	8.36	0.044	0.069	9.24	0.522
BOA	2009	8.61	0.085	0.069	10.42	0.2802
BOA	2010	8.75	0.081	0.054	12.89	0.3353
BOA	2011	8.89	0.332	0.069	16.12	0.391
BOA	2012	9.02	0.241	0.043	17.25	0.3183
BOA	2013	9.22	0.081	0.069	18.19	0.3173
BOA	2014	9.33	0.074	0.66	19.07	0.2299
BOA	2015	9.52	0.101	0.075	20.1	0.2265
BOA	2016	9.73	0.073	0.99	21.11	0.2294
BOA	2017	10.4	0.0909	0.075	22.41	0.2425
BOA	2018	10.5	0.0898	0.55	26.11	0.2235
BOA	2019	10.59	0.091	0.065	26.11	0.2123
WB	2000	6.24	0.054	0.075	8.14	0.07
WB	2001	6.37	-0.003	0.075	8.33	0.08
WB	2002	6.47	-0.011	0.075	8.54	0.1
WB	2003	6.79	0.011	0.075	8.58	0.14

WB	2004	7.04	0.073	0.075	8.62	0.29
WB	2005	7.39	0.061	0.083	8.65	0.27
WB	2006	7.72	0.106	0.083	8.68	0.33
WB	2007	8.15	0.158	0.069	8.79	0.34
WB	2008	8.32	0.044	0.069	9.24	0.3138
WB	2009	8.54	0.085	0.069	10.42	0.3062
WB	2010	8.66	0.081	0.054	12.89	0.3019
WB	2011	8.99	0.332	0.069	16.12	0.3426
WB	2012	9.03	0.241	0.043	17.25	0.2857
WB	2013	9.25	0.081	0.069	18.19	0.2457
WB	2014	9.33	0.074	0.66	19.07	0.193
WB	2015	9.53	0.101	0.075	20.1	0.1874
WB	2016	9.69	0.073	0.99	21.11	0.1705
WB	2017	10.32	0.0909	0.075	22.41	0.2111
WB	2018	10.43	0.0898	0.55	26.11	0.2962
WB	2019	10.47	0.091	0.065	26.11	0.2241
UB	2000	4.96	0.054	0.075	8.14	0.08
UB	2001	5.37	-0.003	0.075	8.33	0.1
UB	2002	5.75	-0.011	0.075	8.54	0.05
UB	2003	6.15	0.011	0.075	8.58	0.06
UB	2004	6.51	0.073	0.075	8.62	0.07
UB	2005	6.98	0.061	0.083	8.65	0.25

UB	2006	7.38	0.106	0.083	8.68	0.28
UB	2007	7.69	0.158	0.069	8.79	0.23
UB	2008	8.09	0.044	0.069	9.24	0.269
UB	2009	8.44	0.085	0.069	10.42	0.2568
UB	2010	8.68	0.081	0.054	12.89	0.3885
UB	2011	8.95	0.332	0.069	16.12	0.3578
UB	2012	9.08	0.241	0.043	17.25	0.3384
UB	2013	9.21	0.081	0.069	18.19	0.3115
UB	2014	9.38	0.074	0.66	19.07	0.2292
UB	2015	9.57	0.101	0.075	20.1	0.2124
UB	2016	9.76	0.073	0.99	21.11	0.2068
UB	2017	10.34	0.0909	0.075	22.41	0.1943
UB	2018	10.44	0.0898	0.55	26.11	0.2774
UB	2019	10.55	0.091	0.065	26.11	0.1998
NIB	2000	5.06	0.054	0.075	8.14	0.03
NIB	2001	5.82	-0.003	0.075	8.33	0.24
NIB	2002	6.28	-0.011	0.075	8.54	0.16
NIB	2003	6.79	0.011	0.075	8.58	0.12
NIB	2004	7.13	0.073	0.075	8.62	0.23
NIB	2005	7.46	0.061	0.083	8.65	0.21
NIB	2006	7.61	0.106	0.083	8.68	0.23
NIB	2007	7.87	0.158	0.069	8.79	0.21

NIB	2008	8.2	0.044	0.069	9.24	0.2654
NIB	2009	8.48	0.085	0.069	10.42	0.3015
NIB	2010	8.69	0.081	0.054	12.89	0.3112
NIB	2011	8.87	0.332	0.069	16.12	0.2939
NIB	2012	9.02	0.241	0.043	17.25	0.2549
NIB	2013	9.12	0.081	0.069	18.19	0.2272
NIB	2014	9.28	0.074	0.66	19.07	0.2111
NIB	2015	9.49	0.101	0.075	20.1	0.2025
NIB	2016	9.67	0.073	0.99	21.11	0.1822
NIB	2017	10.32	0.0909	0.075	22.41	0.1822
NIB	2018	10.42	0.0898	0.55	26.11	0.2176
NIB	2019	10.52	0.091	0.065	26.11	0.1992