ADDIS ABABA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

DEPARTMENT OF ACCOUNTING AND FINANCE

THE EFFECT OF INFLATION ON REPORTED PROFIT FOR DECISION-MAKING: THE CASE OF BANKS IN ETHIOPIA.

BY

ALEMTSEHEY SHEFERAW

MARCH, 2021

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A Thesis presented to The College of Business and Economics Department of Accounting and Finance in Partial Fulfillment of the Requirements for the Degree of Master of Science in Accounting and Finance.

MARCH, 2021

Declaration

I, Alemtsehey Sheferaw, hereby declare that the thesis work entitled "**The Effect of Inflation on Reported Profit for Decision-Making: In the Case of Banks in Ethiopia**" submitted by me for the award of the Degree of Master of Science in Accounting and Finance of Addis Ababa University at Addis Ababa Ethiopia, is original and it hasn't been presented for the award of any other Degree, Diploma, Fellowship or other similar titles of any other university or institution.

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This is to certify that the thesis prepared by Alemtsehey Sheferaw, entitled: The Effect of Inflation on Reported Profit for Decision Making: The Case of Banks in Ethiopia and submitted in partial fulfillment of the requirements for the Degree of Master of Science (Accounting and Finance) complies with the regulations of the University and meets the accepted standards for originality and quality.

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LIST OF ACRONYMS

AB	Awash Bank
ANOVA	Analysis of Variance
BOA	Bank of Abyssinia
CBE	Commercial Bank of Ethiopia
CBO	Cooperative Bank of Ethiopia
CLRM	Classical Linear Regression Model
CPI	Consumer Price Index
DB	Dashen Bank
D/E	Debt to Equity
DW	Durbin-Watson
LIB	Lion International Bank
NBE	National Bank of Ethiopia
NIB	Nib International Bank
OIB	Oromia International Bank
OLS	Ordinary Least Square
ROA	Return on Asset
ROE	Return on Equity
UB	United Bank
WB	Wegagen Bank

ABSTRACT

This study analyzes the effect of inflation rate on reported profit, investment, and lending rate for decision making in Ethiopian banks between the period of 2015 – 2019. To address the research objectives, 10 banks were selected due to the availability of full data for the selected period. A total of 50 observations were collected from the audited annual financial report of each bank and macroeconomic and social indicators published by the National Bank of Ethiopia (NBE). The study adopts a purposive sampling method to collect data and a survey research method to analyze documents. In light of prior literature, key explanatory variables were identified to disclose the effect of inflation on reported profit. These variables are lending rate, profit, and investment. The variables were analyzed using STATA econometrics software. The assumptions needed to be fulfilled for OLS were tested and the result proves that the data was not found heteroscedastic, free of autocorrelation, and normally distributed. The findings of the study show that the lending rate has a statistically significant and positive relationship with the inflation rate. However, the other variables profit and investment have a positive and statistically insignificant relationship with inflation. The study recommended that the management and policymakers of Ethiopian banks should come up with better strategies of countering the inflation effect to allow sustained profits and attract customers and prevent them from minimizing and terminating borrowing.

CHAPTER ONE - INTRODUCTION

1.1. BACKGROUND OF THE STUDY

In economics, inflation is a general increase in prices and a decrease in the purchasing power of money (Sitar, 2021). According to Amadeo (2020), there are two causes of inflation. Amado stated that the most common is demand-pull inflation that happened when demand outpaces supply for goods or services and buyers want the product so much that they're willing to pay higher prices. Amadeo also stated that cost-push inflation is the second, less common, cause that's when supply is restricted but demand is not that happened after Hurricane Katrina damaged gas supply lines. Gasoline demand didn't change, but supply constraints raised prices to $5 a gallon. According to Amadeo, some sources say that an increase in the money supply also causes inflation. That's a misinterpretation of the theory of monetarism which says the primary cause of inflation is the printing out of too much money by the government. Amadeo founds that too much capital chases too few goods which creates inflation by triggering either demand-pull or cost-push inflation. Amadeo found that some also count built-in inflation as a third cause, when prices rise, labor expects an increase in wages to keep up. But higher wages raise the cost of production, which raises prices of goods and services again. When this cause-and-effect continues, it becomes a wage-price spiral.

Chen (2020) writes a high, negative, or uncertain value of inflation negatively impacts an economy. It leads to uncertainties in the market, prevents businesses from making big investment decisions, may lead to unemployment, promotes hoarding as people flock to stock necessary goods at the earliest amid fears of price rise and the practice leads to more price increase, may result in an imbalance in international trade as prices remain uncertain, and also impacts foreign exchange rates. However, an optimum level of inflation is required to promote spending to a certain extent instead of saving. If the purchasing power of money remains the same over the years, there may be no difference in saving and spending. It may limit spending, which may negatively impact the overall economy as decreased money circulation will slow overall economic activities in a country. A balanced approach is required to keep the inflation value in an optimum and desirable range.

According to Pat S. (2011), it is surprising to most people; economists generally argue that some inflation is a good thing. The author states that a healthy rate of inflation is considered to be approximately 2-3% per year. He said the goal is for inflation (which is measured by the Consumer Price Index, or CPI) to outpace the growth of the underlying economy (measured by Gross Domestic Product, or GDP) by a small amount per year. According to the author healthy rate of inflation is considered positive because it results in increasing wages and corporate profitability and keeps capital flowing in a presumably growing economy. The author writes as long as things are moving in relative unison, inflation will not be detrimental. Another way of looking at small amounts of inflation is that it encourages consumption. The author concludes that inflation can encourage consumption which can in turn further stimulate the economy and create more jobs.

Hazlitt (1977) writes inflation changes the profitability, or apparent profitability, of different businesses and occupations, and so leads to extensive changes in what is produced. Hazlitt states that when major inflation is over, it is discovered that it has led in many cases to increased production of the wrong things at the cost of more necessary things. It leads to mal production and malinvestment, and hence to huge waste. But still, another effect becomes increasingly serious. Not only do investors and managers not know what their companies are currently earning; they know still less what they are going to earn in the future. In the face of all experience, one of the most persistent of all fallacies is the tacit assumption that in an inflation all prices and wages rise at the same rate. This fallacy is nourished by the monthly publication of official index numbers reducing all wholesale and consumer prices to a single average, and by the persistent practice of newspaper headlines of citing "the" rate of inflation. These government averages of 400 to 2,700 different prices tend to make the man on the street, and even many professional economists, forget that even in normal times all individual prices are constantly changing about each other and that in periods of severe inflation this diversity and dispersion of price movements becomes far greater.

Accounting data is an important and vital tool in management's role in planning, controlling, and decision making. In the past decade, inflation has distorted the financial information reported under conventional accounting concepts. The economic realities of a company's cash flow, earning power and financial position were not being accurately reported. As the purchasing

power of the dollar has declined over the years, the adequacy of the historical cost measurements has been seriously challenged. Although these challenges have been addressed by various organizations, including the Financial Accounting Standards Board, their emphasis has been to improve financial statements for the external user. However, inflation-adjusted financial statements are necessary for managers to make informed financial decisions (Palaccia, 1983).

Adjusting corporate profits for inflation is important for at least three reasons. First, inflation accounting may entail supplemental disclosures on the part of the firm. Such disclosures may provide valuable new information about the status of corporate operations. This may be useful as a guide to investment allocation, in assessing management performance, and, in aggregate, in determining the state of the economy and the distribution of income. Second, adjustments to already available data may make such information more usable and understandable. This assemblage of already available data serves the same purpose as presenting historical accounting data in the balance sheet, income statement, and sources and uses of funds formats, rather than serving just as a collection of raw data. Providing data in a usable and standardized form is essential for analyzing firms. Third, in addition to helping gauge the financial status of the corporate sector, inflation accounting can be quite useful in developing policy guidelines, most obviously in the area of corporate tax policy. To date, all the required inflation accounting adjustments are purely supplementary information for book purposes. The tax base is still conventional nominal corporate net income (Jeremy I. Bulow, 1982).

According to Loening, Durevall, & Birru (2009), inflation in Ethiopia is heavily associated with the dominant role of agriculture and food in the economy. Ethiopia's inflation is practically synonymous with food price inflation, and prices for major cereals, such as wheat, maize, teff, sorghum, and barley matter most. However, contrary to the prevailing view, we find that the growth of food prices is determined in the external sector. In other words, the exchange rate and international prices explain a large fraction of Ethiopia's inflation: a one percent increase in world food prices eventually increases domestic food prices by one percent, unless the exchange rate changes. They stated that a realistic period is about three years. Similarly, non-food price inflation appears to be determined in the external sector, but the evidence for the long run is not as strong.

Inflation is important for banks because they typically deal in nominal financial instruments, that is, instruments denominated in fixed dollar amounts. When a bank borrows, it issues nominal financial instruments to creditors (deposit liabilities, acceptances and debentures) as evidence of its obligation. While nominal financial instruments differ from one another in many respects, they share one important characteristic: their payments are fixed in nominal value, that is, in terms of bank assets and liabilities. If the realized rate of inflation exceeds the anticipated rate, the price level has risen unexpectedly. The unexpected increase in the price level causes a proportional reduction in the exchange value of both nominal financial assets and liabilities in terms of real goods. Because banks are typically net creditors in nominal instruments, bank owners lose wealth when there is unanticipated inflation (that is, when bank capital declines) (Santoni, 1986).

Since this paper focuses on the effect on inflation on reported profit, empirical investigation on lending rate, banks profit and investment are required to analyze the effect of inflation on the reported profit for decision-making in Ethiopian banks. This can be examined by observing the effect of inflation on reported profit, lending rate and investment.

1.2. STATEMENT OF THE PROBLEM

The phenomenon of inflation has become the front-page news in almost all countries of the world whether they may be developed or developing countries. Developing countries are relatively greater sufferers of inflation because of poverty, low employment, lack of adequate resources, and foreign exchange reserves. It has become very difficult to pull the economy out of this problem. Today not only economists but also politicians and other social scientists are taking a keen interest. It is because they are afraid of its serious repercussions on the distribution of income and wealth among different social classes and individuals on the rate of economic growth of a country and on the stability of the given political and economic system, so its study is not only significant but also highly rewarding (Lone, 2016).

According to Doepke, Lehnert, & Sellgren (1999), the quantity of money is determined by money supply and demand. Money is defined as the medium of exchange in an economy. They stated that currency (banknotes and coins) is a medium of exchange, but other commodities fulfill this function as well. For example, deposits on checking accounts can be used as a medium of exchange, since a consumer can write a check in exchange for goods. They also stated that

there are other assets where it is not so clear whether they should be considered money or not. For example, savings deposits can be used as a medium of exchange by making transfers or withdrawals, but the main purpose of savings accounts is to serve as a store of value. To deal with these ambiguities, economists work with several different definitions of money.

Inflation reduces the purchasing power of money. If inflation becomes excessive, not only may voluntary saving be discouraged, but the use of money as a medium of exchange may be discouraged involving society in real resource costs and welfare losses. Since inflation reduces the purchasing power of money, holders may be expected to avoid the loss by cutting down their holdings of money for transaction purposes. The cost of inflation arises from the fact that cash balances yield utility and contribute to production. When people decide to hold less in cash balances, they do so by substituting other real resources for cash in making transactions. For example, the frequency of trips to the bank may increase, which absorbs labor time. Credit mechanisms may be resorted to, which absorb society's resources. Energy, time, and resources are devoted to minimizing the use of cash balances which are costless to produce. There is no consensus on how this welfare loss should be measured. One way is to assume that the interest rate measures the services provided by money and that the opportunity cost of holding money is the nominal rate of interest foregone (Thirlwall, 1974).

In many countries, the nation’s central bank has been set an inflation target to reach as part of their operation of monetary policy. This is recognition of the economic and social damage that high and volatile inflation can bring. If interest rates on savings accounts in banks are lower than the rate of inflation, then people who rely on interest from their savings will be poorer. Real interest rates for millions of savers in the UK and many other countries have been negative for at least four years. Hyperinflation destroys the value of savings and means that many families are exposed to high interest-rate debt. High inflation may also lead to higher borrowing costs for businesses and people needing loans and mortgages as financial markets seek to protect themselves against rising prices and increase the cost of borrowing on short and longer-term debt. High inflation puts pressure on a government to increase the value of the state pension and unemployment benefits and other welfare payments as the cost-of-living climbs higher. Hyperinflation destroys the internal purchasing power of money and undermines its value as a medium of exchange and as a unit of account. Alternative currencies that at least hold some of

their value may take the place of the domestic unit of exchange and shadow markets with products traded at unofficial prices often become the norm (tutor2u, n.d.).

The country-level overall inflation rate in Ethiopia (annual change based on 12 months Moving Average) rose by 15.8 percent in December 2019 as compared to the one observed in a similar period a year ago. The country-level food inflation increased by 18.9 percent as compared to the one observed a year ago, according to the report from the Central Statistics Agency (CSA). The country-level Non-food inflation rate increased by 12.2 percent in December 2019 as compared to the one observed in August 2018. The 12 months moving average inflation rate shows the longer-term inflationary situation (Behak New Business Ethiopia, 2020).

It is a clear fact that Ethiopia has been registering economic growth for a decade. Along with the economic growth the country has been facing a double-digit increase in the price of goods and services. Consequently, inflation in Ethiopia becomes the most controversial issue in the economic and political discourses of the country. Today in general in developing countries in particular, inflation is officially regarded as a major economic problem and is one of the major concerns of macroeconomic policies. In effect, households in Ethiopia especially the urban poor were badly hurt, and still, the problem persists all over the country (Desta, 2016).

All the above discussed problems in the banking industry of Ethiopia in relation to inflation in general along with the gap in the literature (to be discussed in the next chapter) with respect to profit and the link between inflation and lending rate and investment call for detailed study. Therefore, this study seeks to fill the gap by providing full information about inflation that affects reported profit, lending rate and investment of banks by examining the untouched one, and repeating the existing in the Ethiopian context by using all commercial banks operated in the country.

1.3. RESEARCH QUESTIONS

In line with statement of the problem highlighted above, the following research question was formulated as follows;

i. What would be the effect of inflation on lending decisions of Ethiopian banks?
ii. What is the effect of inflation on the reported profit of Ethiopian banks?
iii. What is the effect of inflation on investment decisions of Ethiopian banks?

1.4. RESEARCH OBJECTIVES

1.4.1. GENERAL OBJECTIVE

The research general objective was to study the effect of inflation on reported profit for decision-making in banks in Ethiopia.

1.4.2. SPECIFIC OBJECTIVES

The research specific objectives are:

i. To analyze the effect of inflation on lending decisions of Ethiopian banks between the 2015 – 2019 fiscal years.
ii. To analyze the effect of inflation on the investment decisions of Ethiopian banks between the 2015 – 2019 fiscal years.
iii. To examine the effect of inflation on the reported profit of Ethiopian banks between the 2015 – 2019 fiscal year.

1.5. SIGNIFICANCE OF THE STUDY

The study is expected to contribute to the selected banks under the study. Its findings are of great use to the management of the banks in the area of the effect of inflation on the reported profit and how to prevent such occurrence as indicated in the recommendations of the study.

The study findings will initiate the government and national bank to reconsider the need for inflation accounting and appropriate profit reports. The government will benefit by taking into consideration the effect of inflation on the reported profit.

The study is expected to elevate the attention of researchers to work on the effect of inflation on reported profit. The study will not only serve as a basis for further research on the effect of inflation on reported profit but also add to the existing knowledge base in this study.

1.6. SCOPE AND DELIMITATION OF THE STUDY

1.6.1. SCOPE OF THE STUDY

This study focuses on the effect of inflation on reported profit and its implication for decision-making in selected banks in Ethiopia. It was focused on the period 2015 to 2019. The banks' understudies were one (1) government and nine (9) private banks in Ethiopia namely: Commercial Bank of Ethiopia (CBE), Awash Bank (AB), Bank of Abyssinia (BoA), Cooperative

Bank of Ethiopia (CBO), Dashen Bank (DB), Lion International Bank (LIB), Nib International Bank (NIB), Oromia International Bank (OIB), United Bank (UB), and Wegagen Bank (WB). The choice of this to ensure data availability to enhance the achievement of the study objectives.

1.6.2. LIMITATION OF THE STUDY

The study focused on only the effect of inflation on reported profit and its implication for decision-making in selected banks in Ethiopia. Other areas of inflation were not touched in the research paper. Further, the sample of the study was limited only to one (1) government bank and nine (9) private banks.

A shortage of reference books and literature in the area of inflation and its effect on reported profit and small sample size affected the quality of the study output.

1.7. ORGANIZATIONS OF THE STUDY

The research paper contains five chapters. The first chapter includes the introduction, statement of the problem, the objectives of the study, the research questions, significance of the study, the scope of the study, and limitation of the study and organization of the paper. The second chapter presents a review of related literature. The third chapter outlines the research methodology. The fourth chapter is devoted to the data presentation, analysis, and review of the literature. The final chapter summarizes the findings, presents the conclusion and recommendations made by the researcher. Then end of the paper list references and annexes.

CHAPTER TWO - LITERATURE REVIEW

2.1. INTRODUCTION

This chapter presents the theoretical review applied in the execution of the study and literature on inflation and bank profit in Ethiopia will be reviewed. The first part discusses the theoretical reviews which contain the types of inflation and related theories, measurements of inflation and its effect will be presented. Empirical studies will follow in the next part to have a greater understanding of inflation. In the final part, existing research gaps in Ethiopia and the conceptual framework are pictorially presented.

2.2. THEORETICAL REVIEW

2.2.1. DEFINITION

Inflation can be defined as a sustained or continuous rise in the general price level or as a sustained or continuous fall in the value of money. Several things should be noted about this definition. First, inflation refers to the movement in the general level of prices. It does not refer to changes in one price relative to other prices. These changes are common even when the overall level of prices is stable. Second, the prices are those of goods and services, not assets. Third, the rise in the price level must be somewhat substantial and continue over a period longer than a day, week, or month (Labonte, 2011).

Inflation is the rate of increase in prices over a given period (Oner, 2010). Inflation is typically a broad measure, such as the overall increase in prices or the increase in the cost of living in a country. But it can also be more narrowly calculated—for certain goods, such as food, or services, such as a haircut, for example. Whatever the context, inflation represents how much more expensive the relevant set of goods and/or services has become over a certain period, most commonly a year.

As prices rise, a single unit of currency loses value as it buys fewer goods and services. This loss of purchasing power impacts the general cost of living for the common public which ultimately leads to a deceleration in economic growth. The consensus view among economists is that sustained inflation occurs when a nation's money supply growth outpaces economic growth. A country's appropriate monetary authority, like the central bank, then takes the necessary

measures to keep inflation within permissible limits and keep the economy running smoothly (Chen, 2020).

The word "inflation" originally applied solely to the quantity of money. It meant that the volume of money was inflated, blown up, overextended. It is not mere pedantry to insist that the word should be used only in its original meaning. To use it to mean "a rise in prices" is to deflect attention away from the real cause of inflation and the real cure for it (Henry, 1965).

When the supply of money is increased, people have more money to offer for goods. If the supply of goods does not increase—or does not increase as much as the supply of money—then the prices of goods will go up. Each dollar becomes less valuable because there are more dollars. Therefore, more of them will be offered against, say, a pair of shoes or a hundred bushels of wheat than before. A "price" is an exchange ratio between a dollar and a unit of goods. When people have more dollars, they value each dollar less. Goods then rise in price, not because goods are scarcer than before, but because dollars are more abundant (Henry, 1965).

2.2.2. TYPES OF INFLATION

Inflation is when the prices of goods and services increase. There are four main types of inflation, categorized by their speed. They are creeping, walking, galloping, and hyperinflation. There are specific types of asset inflation and also wage inflation. Some experts say demand-pull and cost-push inflation are two more types, but they are causes of inflation. So is the expansion of the money supply (Amadeo, The Balance, 2020).

1. **Creeping Inflation:** Creeping or mild inflation is when prices rise 3% a year or less. According to the Federal Reserve, when prices increase 2% or less, it benefits economic growth. This kind of mild inflation makes consumers expect that prices will keep going up. That boosts demand. Consumers buy now to beat higher future prices. That's how mild inflation drives economic expansion. For that reason, the Fed sets 2% as its target inflation rate (Amadeo, The Balance, 2020).
2. **Walking Inflation:** This strong, or destructive, inflation is between 3-10% a year. It is harmful to the economy because it heats-up economic growth too fast. People start to buy more than they need to avoid tomorrow's much higher prices. This increased buying drives demand even further so that suppliers can't keep up. More important, neither can wages. As a

result, common goods and services are priced out of the reach of most people (Amadeo, The Balance, 2020).

3. **Galloping Inflation:** When inflation rises to 10% or more, it wreaks absolute havoc on the economy. Money loses value so fast that business and employee income can't keep up with costs and prices. Foreign investors avoid the country, depriving it of needed capital. The economy becomes unstable, and government leaders lose credibility. Galloping inflation must be prevented at all costs (Amadeo, The Balance, 2020).
4. **Hyperinflation:** Hyperinflation is when prices skyrocket more than 50% a month. It is very rare. Most examples of hyperinflation occur when governments print money to pay for wars. Examples of hyperinflation include Germany in the 1920s, Zimbabwe in the 2000s, and Venezuela in the 2010s. The last time America experienced hyperinflation was during its civil war (Amadeo, The Balance, 2020).
5. **Stagflation:** Stagflation is when economic growth is stagnant, but there still is price inflation. This combination seems contradictory, if not impossible. Why would prices go up when there isn't enough demand to stoke economic growth? It happened in the 1970s when the United States abandoned the gold standard. Once the dollar's value was no longer tied to gold, it plummeted. At the same time, the price of gold skyrocketed. Stagflation didn't end until Federal Reserve Chairman Paul Volcker raised the fed funds rate to double-digits. He kept it there long enough to dispel expectations of further inflation. Because it was such an unusual situation, stagflation probably won't happen again (Amadeo, The Balance, 2020).
6. **Wage Inflation:** Wage inflation is when workers' pay rises faster than the cost of living. This kind of inflation occurs in three situations. First is when there is a shortage of workers. Secondly, is when labor unions negotiate ever-higher wages. Thirdly is when workers effectively control their pay. A worker shortage occurs whenever unemployment is below 4%. Labor unions negotiated higher pay for autoworkers in the 1990s. CEOs effectively control their pay by sitting on many corporate boards, especially their own. All of these situations created wage inflation. Of course, everyone thinks their wage increases are justified. But higher wages are one element of cost-push inflation. That can drive up the prices of a company's goods and services (Amadeo, The Balance, 2020).
7. **Asset Inflation:** An asset bubble, or asset inflation, occurs in one asset class. Good examples are housing, oil, and gold. It is often overlooked by the Federal Reserve and other inflation-

watchers when the overall rate of inflation is low. But the subprime mortgage crisis and subsequent global financial crisis demonstrated how damaging unchecked asset inflation could be (Amadeo, The Balance, 2020).

2.2.3. THEORIES OF INFLATION

2.2.3.1. Cost-Push Theory of Inflation

The cost-push theory of inflation is the wage push or the profit-push theory of inflation. In every process of inflation wages and prices rise and they reinforce the rise in each other, whatever the cause of inflation. But if the cost-push theory is valid, then they both should not be the common result of some third force which may be a rise in total demand or money supply or whatnot and the initiation of inflation should have been made by an autonomous rise in wages or profits (Laliwala, J I, 2015).

The basic cause of Cost-Push inflation is the rise in money wages more rapidly than the productivity of labor. The labor unions press employers to grant wage increases considerably, thereby raising the cost of production of commodities. Employers, in turn, raise the prices of their products. Higher wages enable workers to buy as much as before, despite higher prices. On the other hand, the increase in prices induces unions to demand still higher wages. In this way, the wage-cost spiral countries, thereby, leading to cost-push or wage-push inflation (Totonchi, 2011).

2.2.3.2. Demand-Pull Theory of inflation

According to this theory, it is not the push of cost from behind, but the pull of demand from the fore that causes inflation i.e. the wage-rise and the price rise - both are the results of rising total demand. The total demand for goods in the economy can rise either on account of the increase in the money stock or an increase in the velocity of money. In the modern economy, liabilities of the non-bank financial intermediaries work as near money or near money substitutes and thereby reduce the demand for money that increases its velocity (Laliwala, J I, 2015).

2.2.3.3. Keynesian Theory of Inflation

According to Comley (2015), the eminent economist John Maynard Keynes theorized a lot about inflation. He postulated that the money supply had an influence on inflation in a much more complex way than the strict monetarists suggested. Instead, Keynes proposed that inflation was caused in several different ways: by demand outstripping supply and pulling inflation higher, by

inflation being built into the system, and by higher costs pushing inflation higher. Below are examples of each of these types of causes of inflation.

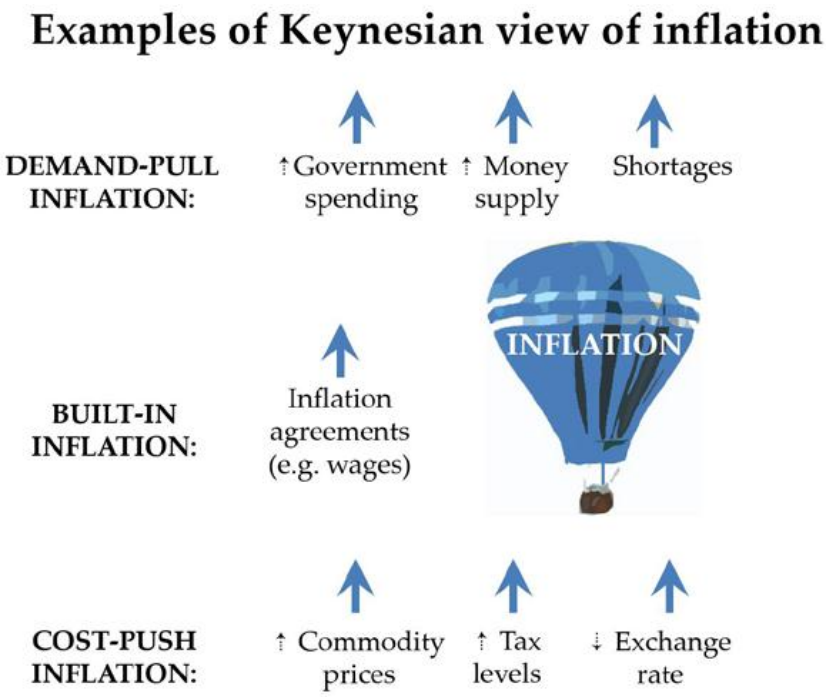


Figure 1. Examples of Keynesian view of inflation

It was also Keynes's view that inflation expectations were important. The impact of the wage settlements that workers seek and affect other inflation agreements that are created (Comley, 2015).

Furthermore, Keynes and his followers have argued that governments face a trade-off between unemployment and inflation – i.e. if you want full employment you may need to tolerate higher inflation. Indeed, as Keynes was writing during the Great Depression, he not surprisingly gave great importance to reducing unemployment. This thinking paved the way for post-war governments that were less concerned about creating inflation than their predecessors, as they saw it as a necessary trade-off to create full employment (Comley, 2015).

Interestingly, the Keynesian theory of inflation has gone out of fashion. This is probably related to the rejection of Keynesian thinking in general which started in the 1970s. However Keynesian ideas have had something of a renaissance following the Great Recession of 2008 as governments seek alternative solutions to the problems we now face (Comley, 2015).

2.2.3.4. Monetary Theory of Inflation

Monetary theory is based on the idea that a change in the money supply is the main driver of economic activity. It argues that central banks, which control the levers of monetary policy, can exert much power over economic growth rates by tinkering with the amount of currency and other liquid instruments circulating in a country's economy (Liberto, 2019).

General price levels tend to rise more than the production of goods and services when the economy is closer to full employment. When there is slack in the economy, Q will increase at a faster rate than P under monetary theory (Liberto, 2019).

In many developing economies, the monetary theory is controlled by the central government, which may also be conducting most of the monetary policy decisions. In the U.S., the Federal Reserve Board (FRB) sets monetary policy without government intervention (Liberto, 2019).

The FRB operates on a monetary theory that focuses on maintaining stable prices (low inflation), promoting full employment, and achieving steady growth in the gross domestic product (GDP). The idea is that markets function best when the economy follows a smooth course, with stable prices and adequate access to capital for corporations and individuals (Liberto, 2019).

2.2.4. MEASUREMENTS OF INFLATION

Inflation is measured in a variety of ways depending upon the types of goods and services considered and is the opposite of deflation which indicates a general decline occurring in prices for goods and services when the inflation rate falls below 0%. The most well-known indicators of inflation are stated by James Chen (2020).

2.2.4.1. Wholesale Price Index (WPI)

The WPI is another popular measure of inflation, which measures and tracks the changes in the price of goods in the stages before the retail level. While WPI items vary from one country to another, they mostly include items at the producer or wholesale level.

2.2.4.2. Consumer Price Index (CPI)

The CPI is a measure that examines the weighted average of prices of a basket of goods and services which are of primary consumer needs. They include transportation, food, and medical care. CPI is calculated by taking price changes for each item in the predetermined basket of goods and averaging them based on their relative weight in the whole basket. The prices in

consideration are the retail prices of each item, as available for purchase by the individual citizens. Changes in the CPI are used to assess price changes associated with the cost of living, making it one of the most frequently used statistics for identifying periods of inflation or deflation.

2.2.4.3. GDP Deflator

The GDP deflator is a nationwide generalized price index focusing on the change in prices of goods and services that constitute the GDP. This economy-wide index attempts to determine the percentage change in price for all the goods and services produced in an economy (Langdana, 2009).

GDP Deflator = Nominal GDP / Real GDP

2.2.4.4. The Producer Price Index

The producer price index is a family of indexes that measures the average change in selling prices received by domestic producers of goods and services over time. The PPI measures price changes from the perspective of the seller and differs from the CPI which measures price changes from the perspective of the buyer.

In all such variants, the rise in the price of one component (say oil) may cancel out the price decline in another (say wheat) to a certain extent. Overall, each index represents the average weighted cost of inflation for the given constituents which may apply at the overall economy, sector, or commodity level.

In the light of the above and coupled with the fact that CPI record price changes as it affects households and that it is these households that pull resources for investment. For this reason, the CPI index will be used as the measure of the rate of inflation in this work.

2.2.5. EFFECTS OF INFLATION

Since investors haven't seen significant price rises in years, it's worth brushing up on the most common effects of inflation (Floyd, 2019). The following points highlight the nine major effects of inflation. The effects are:

2.2.5.1. Erodes Purchasing Power

This first effect of inflation is just a different way of stating what it is. Inflation is a decrease in the purchasing power of currency due to a rise in prices across the economy. Within living

memory, the average price of a cup of coffee was a dime. Today the price is closer to two dollars.

Such a price change could conceivably have resulted from a surge in the popularity of coffee, or price pooling by a cartel of coffee producers, or years of devastating drought/flooding/conflict in a key coffee-growing region. In those scenarios, the price of coffee products would rise, but the rest of the economy would carry on largely unaffected. That example would not qualify as inflation since only the most caffeine-addled consumers would experience significant depreciation in their overall purchasing power (Floyd, 2019).

2.2.5.2. Encourages Spending, Investing

A predictable response to declining purchasing power is to buy now, rather than later. Cash will only lose value, so it is better to get your shopping out of the way and stock up on things that probably won't lose value (Floyd, 2019).

For consumers, that means filling up gas tanks, stuffing the freezer, buying shoes in the next size up for the kids, and so on. For businesses, it means making capital investments that, under different circumstances, might be put off until later. Many investors buy gold and other precious metals when inflation takes hold, but these assets' volatility can cancel out the benefits of their insulation from price rises, especially in the short term (Floyd, 2019).

2.2.5.3. Causes More Inflation

Unfortunately, the urge to spend and invest in the face of inflation tends to boost inflation in turn, creating a potentially catastrophic feedback loop. As people and businesses spend more quickly to reduce the time, they hold their depreciating currency, the economy finds itself awash in cash no one particularly wants. In other words, the supply of money outstrips the demand, and the price of money—the purchasing power of currency—falls at an ever-faster rate (Floyd, 2019).

When things get really bad, a sensible tendency to keep business and household supplies stocked rather than sitting on cash devolves into hoarding, leading to empty grocery store shelves. People become desperate to offload currency so that every payday turns into a frenzy of spending on just about anything so long as it's not ever-more-worthless money (Floyd, 2019).

2.2.5.4. Raises the Cost of Borrowing

As these examples of hyperinflation show, states have a powerful incentive to keep price rises in check. For the past century in the U.S., the approach has been to manage inflation using monetary policy. To do so, the Federal Reserve (the U.S. central bank) relies on the relationship between inflation and interest rates. If interest rates are low, companies and individuals can borrow cheaply to start a business, earn a degree, hire new workers, or buy a shiny new boat. In other words, low rates encourage spending and investing, which generally stokes inflation in turn (Floyd, 2019).

By raising interest rates, central banks can put a damper on these rampaging animal spirits. Suddenly the monthly payments on that boat, or that corporate bond issue, seem a bit high. Better to put some money in the bank, where it can earn interest. When there is not so much cash sloshing around, money becomes scarcer. That scarcity increases its value, although as a rule, central banks don't want money literally to become more valuable: they fear outright deflation nearly as much as they do hyperinflation. Rather, they tug on interest rates in either direction to maintain inflation close to a target rate (generally 2% in developed economies and 3% to 4% in emerging ones) (Floyd, 2019).

2.2.5.5. Lowers the Cost of Borrowing

When there is no central bank, or when central bankers are beholden to elected politicians, inflation will generally lower borrowing costs.

When levels of household debt are high, politicians find it electorally profitable to print money, stoking inflation and whisking away voters' obligations. If the government itself is heavily indebted, politicians have an even more obvious incentive to print money and use it to pay down debt. If inflation is the result, so be it (once again, Weimar Germany is the most infamous example of this phenomenon) (Floyd, 2019).

Politicians' occasionally detrimental fondness for inflation has convinced several countries that fiscal and monetary policymaking should be carried out by independent central banks. While the Fed has a statutory mandate to seek maximum employment and steady prices, it does not need a congressional or presidential go-ahead to make its rate-setting decisions. That does not mean the Fed has always had a free hand in policy-making, however. Former Minneapolis Fed President

Narayana Kocherlakota wrote in 2016 that the Fed's independence is "a post-1979 development that rests largely on the restraint of the president" (Floyd, 2019).

2.2.5.6. Reduces Unemployment

There is some evidence that inflation can push down unemployment. Wages tend to be sticky, meaning that they change slowly in response to economic shifts. John Maynard Keynes theorized that the Great Depression resulted in part from wages' downward stickiness. Unemployment surged because workers resisted pay cuts and were fired instead (the ultimate pay cut).

The same phenomenon may also work in reverse: wages' upward stickiness means that once inflation hits a certain rate, employers' real payroll costs fall, and they're able to hire more workers (Floyd, 2019).

2.2.5.7. Increases Growth

According to Floyd (2019), unless there is an attentive central bank on hand to push up interest rates, inflation discourages saving, since the purchasing power of deposits erodes over time. That prospect gives consumers and businesses an incentive to spend or invest. At least in the short term, the boost to spending and investment leads to economic growth. By the same token, inflation's negative correlation with unemployment implies a tendency to put more people to work, spurring growth.

This effect is most conspicuous in its absence. In 2016, central banks across the developed world found themselves vexingly unable to coax inflation or growth up to healthy levels. Cutting interest rates to zero and below did not seem to be working. Neither did the buying of trillions of dollars worth of bonds in a money-creation exercise known as quantitative easing. This conundrum recalled Keynes's liquidity trap, in which central banks' ability to spur growth by increasing the money supply (liquidity) is rendered ineffective by cash hoarding, itself the result of economic actors' risk aversion in the wake of a financial crisis. Liquidity traps cause disinflation, if not deflation (Floyd, 2019).

2.2.5.8. Reduces Employment, Growth

Wistful talk about inflation's benefits is likely to sound strange to those who remember the economic woes of the 1970s. In today's context of low growth, high unemployment (in Europe), and menacing deflation, there are reasons to think a healthy rise in prices – 2% or even 3% per

year would do better than harm. On the other hand, when growth is slow, unemployment is high *and* inflation is in the double digits, you have what a British Tory MP in 1965 dubbed "stagflation" (Floyd, 2019).

2.2.5.9. Weakens or Strengthens Currency

High inflation is usually associated with a slumping exchange rate, though this is generally a case of the weaker currency leading to inflation, not the other way around. Economies that import significant amounts of goods and services – which, for now, is just about every economy – must pay more for these imports in local-currency terms when their currencies fall against those of their trading partners (Floyd, 2019).

But once again, inflation can do one thing, or the polar opposite, depending on the context. When you strip away most of the global economy's moving parts it seems perfectly reasonable that rising prices lead to a weaker currency. In the wake of Trump's election victory, however, rising inflation expectations drove the dollar higher for several months. The reason is that interest rates around the globe were dismally low – almost certainly the lowest they've been in human history – making markets likely to jump on any opportunity to earn a bit of money for lending, rather than paying for the privilege (as the holders of $11.7 trillion in sovereign bonds were doing in June 2016, according to Fitch) (Floyd, 2019).

2.2.6. INTEREST RATES, SAVINGS, LOANS, AND INFLATION

The interest rate determines the price of holding or loaning money. Banks pay an interest rate on savings to attract depositors. Banks also receive an interest rate for money that is loaned from their deposits. When interest rates are low, individuals and businesses tend to demand more loans. Each bank loan increases the money supply in a fractional reserve banking system. According to the quantity theory of money, a growing money supply increases inflation. Thus, low interest rates tend to result in more inflation. High-interest rates tend to lower inflation. While this is a very simplified version of the relationship, it highlights why interest rates and inflation tend to be inversely correlated (Folger, 2020).

The National Bank of Ethiopia (NBE), in line with its policy of maintaining inflation at a low and single-digit level, has kept the growth of reserve money within the target by closely monitoring movements in domestic credit, including direct advance to the government. The Bank

has also ensured the stability and predictability of the interest rate by setting the minimum deposit rate while allowing the lending rate to be determined by market forces. This policy has resulted in increased saving mobilization and investment activities throughout the fiscal year (Ethiopia, 2018/19).

2.2.7. LENDING DECISIONS

Financial accounting is also a key for creditors, from banks to bondholders. Because financial statements outline all its assets as well as the short- and long-term debt, lenders get a better sense of a company's creditworthiness. Several common accounting ratios creditors rely on, such as the debt-to-equity (D/E) ratio and times interest earned ratio, are derived entirely from a company's financial statements. Even for privately-owned businesses that do not necessarily follow the requirements of the FASB, no lending institution assumes the liability of a large business loan without critical information provided by financial accounting techniques (Investopedia, 2020).

Ultimately, a lender wants to know just how much risk is involved when lending company money, which can be determined by reviewing the company's financial accounting. Once this level of risk is determined, the lender will also be able to outline exactly how much to lend and at what interest rates through the process of underwriting the loan (Investopedia, 2020).

2.2.8. INVESTING DECISIONS

The fundamental analysis depends heavily on the accounting data that is recorded on a company's financial statements, including the balance sheet, income statement, and cash flow statement. Each of the financial statements for publicly traded companies is created and reported according to the financial accounting standards set forth by the Financial Accounting Standard Board (FASB) and submitted to the Securities and Exchange Commission (SEC) (Investopedia, 2020).

Investors and analysts use the information from financial statements to make decisions about the valuation and creditworthiness of a company, allowing them to set price targets and determine if a stock's price is fairly valued or not. Without the information provided by financial accounting, investors would have less understanding of the historical, current, and prospective financial health of stock and bond issuers. The requirements set forth by the FASB create consistency in

the timing and style of financial accounts, which means investors are less likely to be subject to accounting information that has been filtered based on a firm's current condition (Investopedia, 2020).

Andersen described decision making as a human cognitive process that leads to a course of action among a set of choices making a decision involves a choice which can be an action or an opinion. In the context of modeling investment decision-making in finance, by far, a majority of models assume that decision-making is a rational reasoning process. The investment decision involves looking towards the acquisition of a product or service. This does not usually involve any costs undertaken by the customer and can turn this decision into an effective demand when combined with the ability to invest. The investment decision means that there is a tendency to secure future benefits by dealing with money to make profits and to release money within a specific period to obtain future cash flow. Should the customer get to financial culpability, then the intention to invest does not mean real investment unless the customer has the adequate financial capability. Everyone wants to invest, but the capability to invest varies from one person to another (Aburas & Hamid, 2013).

One of the leading ratios used by investors for a quick check of profitability is the net profit margin. This ratio compares a company’s net income to its revenue. In general, the higher a company's profit margin, the better. A net profit margin of 1 means a company is converting all of its revenue to net income. Profit margin levels vary across industries and periods as this ratio can be affected by several factors. Thus, it is also helpful to look at a company's net profit margin versus the industry and the company’s historical average (Elmerraji, 2020).

2.2.9. INFLATION FAVOR FOR LENDERS AND BORROWERS

Many economists agree that the long-term effects of inflation depend on the money supply. In other words, the money supply has a direct, proportional relationship with price levels in the long term. Thus, if the currency in circulation increases, there is a proportional increase in the price of goods and services (Segal, 2020).

2.2.9.1. Inflation Favor to Borrowers

If wages increase with inflation, and if the borrower already owed money before the inflation occurred, the inflation benefits the borrower. This is because the borrower still owes the same

amount of money, but now they more money in their paycheck to pay off the debt. This results in less interest for the lender if the borrower uses the extra money to pay off their debt early.

When a business borrows money, the cash it receives now will be paid back with cash it earns later. A basic rule of inflation is that it causes the value of a currency to decline over time. In other words, cash now is worth more than cash in the future. Thus, inflation lets debtors pay lenders back with money that is worth less than it was when they originally borrowed it.

2.2.9.2. Inflation Favor to Lenders

Inflation can help lenders in several ways, especially when it comes to extending new financing. First, higher prices mean that more people want credit to buy big-ticket items, especially if their wages have not increased–this equates to new customers for the lenders. On top of this, the higher prices of those items earn the lender more interest.

Second, if prices increase, so does the cost of living. If people are spending more money to live, they have less money to satisfy their obligations (assuming their earnings haven't increased). This benefits lenders because people need more time to pay off their previous debts, allowing the lender to collect interest for a longer period. However, the situation could backfire if it results in higher default rates. Default is the failure to repay a debt including interest or principal on a loan. When the cost of living rises, people may be forced to spend more of their wages on nondiscretionary spendings, such as rent, mortgage, and utilities. This will leave less of their money for paying off debts and borrowers may be more likely to default on their obligations.

2.2.10. THE DETERMINANTS OF BANK PROFITABILITY

Spaulding (2020) writes about the determinants of bank profitability. He said that like all businesses, banks profit by earning more money than what they pay in expenses. The major portion of a bank's profit comes from the fees that it charges for its services and the interest that it earns on its assets. Its major expense is the interest paid on its liabilities.

The major assets of a bank are its loans to individuals, businesses, and other organizations and the securities that it holds, while its major liabilities are its deposits and the money that it borrows, either from other banks or by selling commercial paper in the money market (Spaulding, 2020).

Banks increase profits by using leverage — sometimes too much leverage, which helped precipitate the Great Recession of 2007 to 2009. Profits can be measured as a return on assets and as a return on equity. Because of leverage, banks earn a much larger return on equity than they do on assets (Spaulding, 2020).

Profit Measures: Return on Assets and Return on Owners' Equity

According to Spaulding (2020), the traditional measures of the profitability of any business are its return on assets (ROA) and return on equity (ROE). Assets are used by businesses to generate income. Loans and securities are a bank's assets and are used to provide most of a bank's income. However, to make loans and to buy securities, a bank must have money, which comes primarily from the bank's owners in the form of bank capital, from depositors, and money that it borrows from other banks or by selling debt securities — a bank buys assets primarily with funds obtained from its liabilities as can be seen from the following classic accounting equation:

Assets = Liabilities + Bank Capital (Owners' Equity)

However, not all assets can be used to earn income, because banks must have the cash to satisfy the cash withdrawal requests of customers. This vault cash is held in its vaults, in other places on its premises such as tellers' drawers, and inside its automated teller machines (ATMs), and, thus, earns no interest. Banks also have to keep funds in their accounts at the Federal Reserve that, before October 2008, paid no interest. However, because of the Great Recession occurring at that time, the Federal Reserve started paying interest on banks' reserves, although it is much less than market rates. A bank must also keep a separate account — loan loss reserves — to cover possible losses when borrowers cannot repay their loans. The money held in a loan loss reserve account cannot be counted as revenue, and, thus, does not contribute to profits (Spaulding, 2020).

The ROA is determined by the number of fees that it earns on its services and its net interest income (Spaulding, 2020):

Net Interest Income	**=**	**Interest Received on Assets**	**–**	**Interest Paid on Liabilities**

	=	**Interest Earned on Securities + Loans**	-	**Interest Paid on Deposits and Borrowings**

Net interest income depends partly on the interest rate spread, which is the average interest rate earned on its assets minus the average interest rate paid on its liabilities (Spaulding, 2020).

$$Interest\ Rate\ Spread = Average\ Interest\ Rate\ Received\ on\ Assets - Average\ Interest\ Rate\ Paid\ on\ Liabilites$$

The net interest margin shows how well the bank is earning income on its assets. High net interest income and margin indicate a well-managed bank and also indicate future profitability (Spaulding, 2020).

$$\textbf{Net Interest Margin} = \frac{\textbf{Net Interest Income}}{\textbf{Average Total Assets}}$$

The ROA for banks:

$$\textbf{ROA} = \frac{\textbf{Fee Income} + \textbf{Net Interest Income} - \textbf{Operating Costs}}{\textbf{Average Total Assets}} = \frac{\textbf{Net Income}}{\textbf{Average Total Assets}}$$

Because income is calculated over some time, but assets, as a balance sheet factor, are determined at a particular time, average assets are used (Spaulding, 2020):

Average	=	**Total Assets at**	+	**Total Assets at**

$$\text{Total Assets} = \frac{\text{Start of Fiscal Year} + \text{End of Fiscal Year}}{2}$$

The return on equity is what the bank's owners are primarily interested in because that is the return that they earn on their investment, and depends not only on the return of assets but also on the total value of the assets that earn income. However, to purchase more assets, a bank needs to pay for them either with more liabilities or with bank capital. Therefore, if the owners want to earn a greater return, they would rather use liabilities rather than their capital because this greatly increases their return (Spaulding, 2020).

When a bank increases its liabilities to pay for assets, it is using leverage — otherwise, a bank's profit would be limited by the fees that it can charge and its interest rate spread. But the interest rate spread is limited by what a bank must pay on its liabilities and what it can charge on its assets. Since banks compete with each other for depositors and deposits compete with other investments, banks must pay minimum market rates to attract depositors. Likewise, banks can only charge so much for loans since there is competition from other banks and businesses can get loans by selling debt securities, either commercial paper or bonds, in the financial markets. Hence, interest rate spreads are not wide, so a bank can only earn more net interest income by increasing the number of loans that it makes compared with the amount of its bank capital, which it does by using **leverage** (Spaulding, 2020):

$$\text{Leverage Ratio} = \frac{\text{Bank Assets}}{\text{Bank Capital}}$$

Now the return for the owners is easy to calculate:

$$\text{ROE} = \text{Return on Assets} \times \text{Leverage Ratio}$$

$$= \frac{\text{Net Income}}{\text{Bank Assets}} \times \frac{\text{Bank Assets}}{\text{Bank Capital}}$$

$$= \frac{\textbf{Net Income}}{\textbf{Bank Capital}}$$

The leverage that banks use is the same as a business using debt to increase their earnings. After all, deposits are just money that the bank owes to its depositors. Hence, the leverage ratio is the same as the debt ratio used to determine the leverage of other business types (Spaulding, 2020).

The return on equity can be increased by increasing leverage, but banks can only increase leverage by so much because with increased leverage comes increased risk. A major reason why most investment banks were not depository institutions was to escape such restrictions so that they could earn outsized profits by using extremely high leverage. Rather than managing risk with reserves, these banks managed risk with their financial models (Spaulding, 2020).

2.3. EMPIRICAL LITERATURE REVIEW

This section dealt specifically with the review of the literature related to the various themes in the study. According to Marimba (2018), commercial banks in Kenya are realizing low profits, with some experiencing losses based on the leverage burden, low liquidity that was seen to be below average, market power, and size of the firm that has been established to be below one-tenth. Marimba stated that inflation rates in Kenya are constantly high compared to profitability and there exists a negative significant correlation between inflation and profitability of banks that gives insight to the low values of profits. His research show how banks are affected by high inflation rates and thus affecting their profits while some banks register losses as shown by the values of ROA. He recommends that managers and policymakers of commercial banks in Kenya should develop strategies to counter the effects of inflation to allow for sustained profits and ultimately attract investors while safeguarding from liquidation.

According to Chukwuemeka (2014), there is no significant positive relationship between lending decisions and inflation on Nigerian banks and it is revealed that it could not be established that inflation has adversely affected reported profits on Nigerian banks within 2006 to 2011 fiscal year. The researcher also founds that investment decisions within the reported profits of Nigerian

banks have no direct relationship with inflation within the period under review and finally that inflation on other decision factors (Gearing and Solvency) has no significant relationship on reported profit on Nigerian banks. The researcher also stated that the decision of the organization obeys the trends and situation of the economy either in lending or reported profits, investment decisions, gearing, and solvency. The researcher concludes that in the presence of all these factors inflation and reported profit have a negative influence on decision-making.

Tsegay (2014) found that one of the prime objectives of governments is achieving stable macroeconomic conditions. His finding requires that prices be kept to a reasonably stable level. He stated that high and persistent inflation introduces uncertainties into the economy and may lead to a slowdown of economic growth by discouraging domestic as well as foreign investments. He also stated that causes balance of payments problems by eroding a country's competitive advantage. Moreover, because it hits the poor the most it needs to be tackled.

According to Adenew (2017), liquidity, firm size, the tangibility of assets, and trade openness were found to be insignificant in the profitability of Ethiopian insurance companies. He suggested that the board of directors and managers of insurance companies need to consider these variables while designing their strategic plan. The study's conducted empirical analysis allows regulators to better understand and roughly quantify those effects which might support discussion with insurers resulting in some mitigating actions. The researcher also suggested that further research needs to be done to develop top-down stress test methodologies to fully assess the impact of the low yield environment in combination with a sharp increase of other macro-economic factors, on insurers' profitability as well as solvency positions.

Menji (2008) concludes that inflation in Ethiopia is in the long run due to structural, monetary expansion, lending rates, and expectations. He also concludes that the exchange rate, one-quarter lagged money supply, Gas Oil prices and deficit have been found to have no significant impact on inflation in the long run.

It is conducted that there were four causes of inflation in Ethiopia. They are inflation as an economic growth phenomenon, demand-pull and cost-push theories of inflation, the monetarist explanation of the causes of inflation, and the fiscal budget deficit as a source of inflationary pressure. Moreover, the nonstop currency depreciation combined with oligopolistic pricing by

most distributors/traders in Ethiopia contributed to inflation and forced the government to establish price controls in January 2011 on 18 major basic commodities. The Ethiopian government has adopted fiscal and monetary policy measures to mitigate the adverse effects of inflation in the country. A mix of monetary policy instruments such as adjusting reserve requirement and interest rates and sale and purchase of bonds have been implemented for lessening inflation and better performance of the economy. However, the effectiveness of the policy in achieving the intended goal largely depends on the institutional factors that constrain or facilitate the implementation process of the policy (Desta, 2016).

According to Amdemikael (2012), the ratio of nonperforming loans to total loans has a negative impact on ROA with statistical significance. He concludes that a higher level of nonperforming loans results in lower profit, which is in line with the expectation. He also concludes that GDP growth also has a statistically significant and positive relationship with profitability. Amdemikael concludes, on the other hand, liquidity, concentration, and inflation are factors that have little or no impact on the profitability of Ethiopian banks in this model as far all those variables were not significant even at the 10% significance level.

2.1. RESEARCH GAP

The existing researches in Ethiopia were mainly on inflation Tsegaye (2014), make research on determinants of recent inflation, a case study in Ethiopia; Menji (2008) studied on Determinants of Recent Inflation in Ethiopia; Adenew (2017) make research on Factors influencing profitability in the Ethiopian private insurance companies; Amdemikael (2012) make research on Factors Affecting Profitability: An Empirical Study on Ethiopian Banking Industry.

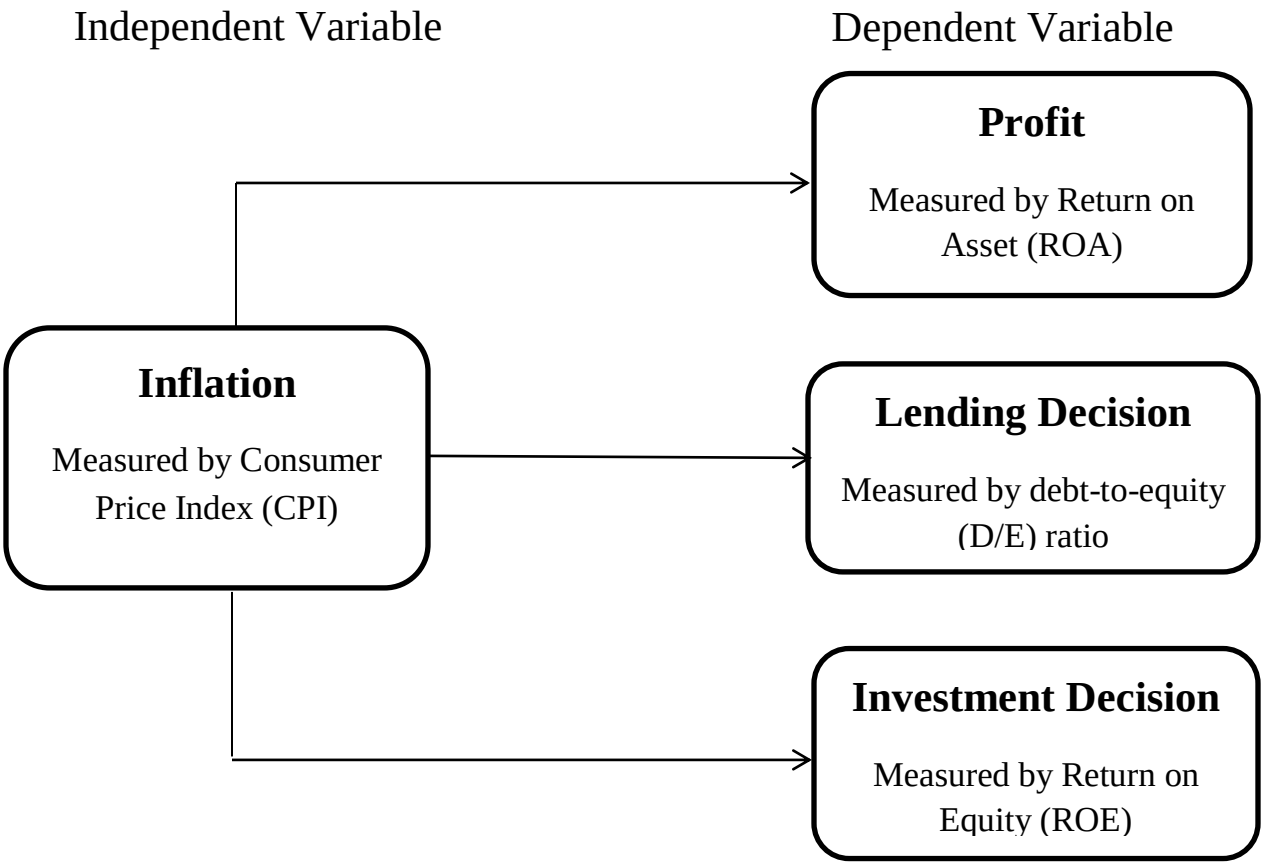
According to the past studies reviewed, it is obvious that not much research has been carried out in Ethiopia regarding the effect of inflation on reported profit for decision-making in banks. The study focused to determine the extent to which lending decisions in Ethiopian banks were affected by inflation and also, how reported profits under an inflationary period were affected the investment decisions of Ethiopian banks between 2015 to 2019. This research will be filling the gap.

2.2. CONCEPTUAL FRAMEWORK

Regoniel (2015) defined a conceptual framework that represents the researcher's synthesis of the literature on how to explain a phenomenon. It maps out the actions required in the course of the study, given his previous knowledge of other researchers' points of view and his observations on the subject of research.

If one variable depends upon or is a consequence of the other variable, it is termed as a dependent variable, and the variable that is antecedent to the dependent variable is termed as an independent variable (Kothari, 2004).

The model displays the relationship between the variables being analyzed. The independent variable is inflation that is characterized by demand-pull inflation and cost-push inflation. The variables will measure the lending decision, reported profit, and investment decision how it is affected by the inflation in the economy. The reported profit, lending decision, and investment decisions are the dependent variables that are based on the ROA, debt-to-equity ratio, and ROE, respectively. The following conceptual framework of the study is developed by the researcher from the theoretical and empirical literature reviews.



Source: - Compiled by the researcher

Figure 2.1. Conceptual Framework

CHAPTER THREE - RESEARCH DESIGN AND METHODOLOGY

3.1. RESEARCH DESIGN

The study implemented an explanatory research design to carry out this study; since it is used in determining the relationship between dependent variables lending rate, profit, and investment with the independent variable inflation rate. The study will also explain the outcome by comparing it with empirical evidence. Therefore, three hypotheses will be formulated and tested based on empirical reviews to obtain the outcome of an independent variable on dependent variables. This design will be appropriate because the study involved an in-depth determination of the cause-and-effect relationship between inflation with a lending decision, inflation with profit, and inflation with the investment decision of Ethiopian banks and how those variables related to each other.

3.2. DATA TYPE

To achieve the research objective a quantitative research approach was used. The nature and sources of data for the analysis of this study were secondary data. This is because it will be ideal to answer the research questions and to empirically test the research hypotheses. The study has used a review of documents to collect the secondary data from the sampled banks. The documents used to collect the data were the financial statements (the balance sheet and income statements) of the sampled banks. Such financial statements are sourced from the national bank of Ethiopia (NBE) and the bank's headquarters, websites, and annual financial reports.

3.3. POPULATION OF THE STUDY

The population of the study consisted of all nineteen banks registered in the NBE and under operation in Ethiopia at least for the last ten years.

3.4. SAMPLE SIZE OF THE STUDY

The sampling technique that was used in this research to select the banks which have a longer period of service to get sufficient information using a purposive sampling method. According to (Kotari, 2004), purposive sampling is more suitable if there is a small population and a known characteristic is studied. Since the number of banks in the country is few, ten (10) banks were selected due to the availability of full data for the selected period 2015 to 2019. The banks under the study were one (1) government and nine (9) private banks in Ethiopia namely: Commercial Bank of Ethiopia (CBE), Awash Bank (AB), Bank of Abyssinia (BoA), Cooperative Bank of Ethiopia (CBO), Dashen Bank (DB), Lion International Bank (LIB), Nib International Bank (NIB), Oromia International Bank (OIB), United Bank (UB), and Wegagen Bank (WB).

3.5. TECHNIQUES OF DATA ANALYSIS

After the data is collected and organized, the linear regression model assumptions were tested and the data analyzed using descriptive statistics and correlations coefficient. Due to the presence of one independent variable and one dependent variable in each of the three hypotheses, simple linear regression was implemented to identify and measure possible factors that could affect the lending decision, profitability, and investment decisions. To analyze the tendencies of the data from 2015 to 2019 based on the sampled ten banks' mean and standard deviations were used. Besides the correlation matrix analysis, t-statistics, p-value, and F-test were employed.

3.6. MODEL SPECIFICATION

According to (Wooldridge, 2009) the regression model was used to test the dependent variable is affected by the independent variable. The regression equation with one dependent variable and one independent variable is outlined by the formula:

$$y = \beta_0 + \beta_1 X + u$$

Where y = dependent variable, β_0 = constant, β_1 = regression coefficient, X = independent variable, and u = error term

H1. Inflation has a negative effect on the lending decision of Ethiopian banks.

$$\text{Lending Decision} = \beta_0 + \beta_1 (\text{Inflation}) + u$$

H1. Inflation has a negative effect on the reported profits of Ethiopian banks.

$$\text{Profit} = \beta_0 + \beta_1 (\text{Inflation}) + u$$

H2. Inflation has a negative effect on the investment decisions of Ethiopian banks.

Investment Decision = $\beta_0 + \beta_1$ (Inflation) + u

3.7. TESTS OF SIGNIFICANCE

In the test of significance, ANOVA was preferred in the study because it examined differences among the means of several different groups at once. The t-test determined the strength of the relationship between inflation rate and reported profit as well as the significance of the independent and control variables. The correlation coefficient (R) was a measure of the linear relationship amongst the variables. The coefficient of determination (R square) measured the proportion of variability in a data set that is accounted for by the statistical model. The descriptive analysis summarized data for testing hypotheses events or situations and therefore allowed for the collection of a sizeable amount of information from a substantial population economically within the variables. Therefore, this was believed to be a suitable approach to review the relationship between the inflation rate and reported profit.

CHAPTER FOUR - DATA ANALYSIS AND INTERPRETATION OF RESULTS

The study relied heavily on the secondary data generated from the Statement of Annual Reports of ten (10) banks in Ethiopia and NBE. This chapter presents the results and analysis of annual financial reports of the selected banks in Ethiopia namely: Commercial Bank of Ethiopia (CBE), Dashen Bank (DB), Awash Bank (AB), Bank of Abyssinia (BOA), Lion International Bank (LIB), Nib International Bank (NIB), Oromia International Bank (OIB), Cooperative Bank of Oromia (CBO), United Bank (UB), and Wegagen Bank (WB). The extracted data used in the various hypotheses were Inflation Rate, Lending Rate, Profit, and Investment. The data analysis was performed using STATA and the values are presented in the appendices.

4.1. DOCUMENTARY ANALYSIS

The main purpose of the study is to analyze the effects of inflation on the reported profit of banks in Ethiopia. The Inflation rate was extracted from the Ethiopian Statistics Agency's official website and the Lending rate was extracted from the National Bank of Ethiopia website and the banks themselves. Section 4.1.1 presents a structured review of financial records, section 4.1.2. presents a test of linear regression model assumption, Section 4.1.3 presents descriptive statistics, Section 4.1.4. presents the correlation analysis among the dependent and independent variables and Section 4.1.5 presents the result of the regression analysis.

To empirically investigate the effects of inflation on the reported profit of banks in Ethiopia and achieve the objectives stated in the previous chapter, 1 government bank and 9 private banks in Ethiopia, their year of service more than 10 years, were included. Based on the stated year of services, 10 Ethiopian banks and NBEs (National Bank of Ethiopia) annual financial report over the consecutive period of 2015-2019 was collected. Therefore, five (5) observations were used to analyze the effect of inflation on the lending decision of Ethiopian banks. And, fifty (10*5) observations were also used to empirically analyze the effect of inflation on the reported profit and investment of the banks in Ethiopia. The balance sheet and income statement were mainly used in this respect. Based on the above data source, the following discussions present the results of the financial statement analysis.

4.1.1. DESCRIPTIVE STATISTICS

Table 4.4 presents the outcomes of the descriptive statistics for the four variables. To show an overall description of the data used in the model and served as a data screening tool to spot unreasonable figures, minimum, maximum, mean, median, standard deviation, kurtosis, and skewness were reported. The data was extracted from the financial statements of 10 banks for the period 2015-2019.

As shown in table 4.4, inflation rate and lending rate contained 5 observations, and profit and investment contained 50 observations. The inflation rate had a mean of 10.4 from 5 observations with a standard deviation of 3.13. The lending rate had a mean of 12.88 from 5 observations with a standard deviation of 0.67.

The mean profit of all the sample banks was 1,354.30 million birrs with a minimum of 34.97 million birrs and a maximum of 11,487.04 million birrs. This indicates that among the sampled banks the most profitable bank earned 11,487.04 million birrs of profit. Contrarily, the sampled banks the least profitable bank earned 34.97 million birrs of profit. The standard deviation statistics for Profit was 2,483.32. The profit measure used in this study was ROA, it shows that on average Ethiopian banks earned a positive profit within the 2015 to 2019 fiscal year. The minimum and maximum of ROA were 0% and 3.8%, respectively, with a mean of 2.34% for the total sample. This indicates that among the sampled banks, for each birr invested in the assets of the bank, the most profitable bank earned 3.8 cents of profit. Contrarily, for each birr invested in the banks' assets, the least profitable bank earned nothing (zero cents). The ROA standard deviation was 0.75 which indicates that among the sampled banks the profit variation was high. This result indicates that the sampled banks have to continue and optimize using their assets to keep and increase the return on their assets.

The mean Investment of all the sample banks was 37,494.94 million birrs with a minimum of 15.09 million birrs and a maximum of 465,360.80 million birrs. The standard deviation statistics for Investment was 102,153.60. The investment measure used in this study was ROE, it shows that on average Ethiopian banks make a large investment within the 2015 to 2019 fiscal year. The minimum and maximum of ROE were 3% and 68.82%, respectively, with a mean of 22.01% for the total sample. This indicates that among the sample banks, for each birr invested in the banks' equity, the most profitable bank earned 68.82 cents of return. Contrarily, for each birr

invested in the banks' equity, the least profitable bank earned 3 cents from the investment. The ROE standard deviation was 10.60 which indicates that among the sampled banks the profit variation was small. This result indicates that the sampled banks have to optimize the use of their equity to increase the return on their equity.

Variables	Observation	Mean	Standard Deviation	Minimum	Maximum	Skewness	Kurtosis
Inflation Rate	5	10.4	3.13	7.4	14.6	0.343	1.521
Lending Rate	5	12.88	0.67	11.88	13.5	-0.468	1.982
Profit	50	1,354.30	2,483.32	34.97	11,487.04	2.858	9.993
Investment	50	37,494.94	102,153.60	15.09	465,360.80	3.092	11.347
ROE	50	22.01	10.60	3	68.82	2.673	11.852
ROA	50	2.34	0.75	0	3.8	-1.064	4.986

Table 4.4: Descriptive Statistics

Source: Financial statements of banks, Ethiopia Macroeconomic and Social Indicators and own computation through STATA output

4.1.1. CORRELATION ANALYSIS AMONG DEPENDENT VARIABLES AND INDEPENDENT VARIABLES

The correlation is one of the most common and most useful statistics. A correlation is a single number that describes the degree of relationship between two variables. According to Fernando (2020), the correlation coefficient is a statistical measure of the strength of the relationship between the relative movements of two variables. The values range between -1.0 and 1.0. A calculated number, greater than 1.0 or less than -1.0 means that there was an error in the correlation measurement. A correlation of -1.0 shows a perfect negative correlation, while a correlation of 1.0 shows a perfect positive correlation. A correlation of 0.0 shows no linear relationship between the movement of the two variables.

Table 4.5. below presents the correlation matrix of the outcome variable and the predictor variables. As presented by the matrix in table 4.5 below, there was a strong positive correlation

between inflation rate and lending rate, $r = 0.8498$, with lending rate explaining 72% (r^2= 0.8498^2=0.72216*100=72%) of the variation in the inflation rate, which means that as the inflation rate increases, the lending rate also increases. There was a small/weak positive correlation between inflation rate and investment, r = 0.0163, with investment explaining 0.03% (r^2= 0. 01632=0.000266*100=0.026569%) of the variation in the inflation rate, which means that as the inflation rate increases, investment also increases. Similarly, there was also a small/weak positive correlation between inflation rate and profit, r = 0.0425, with profit explaining 0.18% (r^2=0.04252=0.001806*100=0.180625%) of the variation in the inflation rate, which means that as the inflation rate increases, profit also increases.

Table 4.5: Correlation matrix of dependent and independent variables

	Inflation Rate	**Lending Rate**	**Investment**	**Profit**
Inflation Rate	1.0000			
Lending Rate	0.8498	1.0000		
Investment	0.0163	-0.0085	1.0000	
Profit	0.0425	0.0704	0.9294	1.0000

Source: Financial statements of banks, Ethiopia Macroeconomic and Social Indicators and own computation through STATA output

4.1.2. TEST OF THE LINEAR REGRESSION MODEL ASSUMPTIONS

Linear regression is a useful statistical method that can use to understand the relationship between two variables, dependent and independent variables. According to Blokhin (2019), linear regression establishes the relationship between two variables using a straight line. Linear regression attempts to draw a line that comes closest to the data by finding the slope and intercept that define the line and minimize regression errors.

Since the regression models had one explanatory variable, three assumptions were tested relating to the classical linear regression model (CLRM). According to Brook (2008), to show the estimation technique the three assumptions are required, ordinary least squares (OLS) have necessary properties, and the hypothesis tests regarding the coefficient estimates could be conducted. However, first, it must make sure that the linear regression assumptions are met before conducting linear regression.

4.1.2.1. Test for Heteroscedasticity assumption

The white test helps to check the null hypothesis versus the alternative hypothesis. According to Hayes (2020), Heteroscedasticity happens when the standard deviations of a dependent variable are non-constant. The opposite of heteroscedasticity, homoskedasticity, refers to a condition in which the variance of the residual term is constant. It is needed to ensure that the estimates are accurate, the prediction limits for the dependent variables are valid, and the confidence intervals and p-values for the parameters are valid. The probability value of the chi-square statistic for both models is greater than 0.05. Therefore, the null hypothesis of constant variance cannot be rejected at a 5% level of significance. It implies that heteroscedasticity is not presented in the residuals.

Table 4.1.: Heteroskedasticity Test: White

Model	chi2(1)	Prob > chi2
1	1.33	0.2487
2	0.09	0.7678
3	0.04	0.8413

Source: Financial statements of banks, Ethiopia Macroeconomic and Social Indicators and own computation through STATA output

4.1.2.2. Test for Autocorrelation assumption

According to Wooldridge (2009), autocorrelation refers to the degree of correlation between the values of the same variables across different observations in the data. The concept of autocorrelation is most often discussed in the context of time series data in which observations occur at different points in time. A common method of testing for autocorrelation is the Durbin-Watson test. The Durbin-Watson test gives a test statistic that ranges from 0 to 4. Values close to 2 suggest less autocorrelation, and values closer to 0 or 4 indicate greater positive or negative autocorrelation respectively.

The Durbin-Watson test statistic value for hypothesis one in the table below was 2.0468. To analyze empirically the effect of inflation on the lending decision of banks in Ethiopia, 5 observations were used in the model as mentioned in the previous chapter. In the model, there were one regressor and one intercept term. Therefore, as shown in the table, the relevant critical values for the test are dL= 0.390 and dU = 1.142, i.e., for 5 observations and 1 regressors and 4 -

dU = 4-1.142=2.858; 4 - dL = 4-0.390=3.61. The Durbin-Watson test statistic result of 1.7548 lies between the upper limit (dU) 1.142 and the critical value of 4- dU 2.858, indicating that there is no autocorrelation.

As mentioned in the previous chapter to empirically analyze the effect of inflation on the reported profits of Ethiopian banks and the effect of inflation on the investment decisions of Ethiopian banks 50 (10*5) observations were used in the model two and three, respectively. Moreover, there were 1 regressor and an intercept term in each model. Since the Durbin-Watson test statistic value shows there is a serial correlation between the residuals in the models, the OLS results are corrected for the autocorrelation. Therefore, the corrected Durbin-Watson test statistic value for the model two and three as shown in the table below was 1.9837 and 2.0468, respectively. The relevant critical values for the test as shown in the table are dL= 1.324 and dU = 1.403, i.e., for 50 observations and 1 regressors and 4 - dU = 4-1.403=2.597; 4 - dL = 4-1.324=2.676. The corrected Durbin-Watson test statistic value for each model is 1.9837 and 2.0468 those lies between du and 4-du, indicating that there is no autocorrelation.

Table 4.2: Autocorrelation test

Model	dL	dU	4-dU	4-dL	DW test static result
1	0.390	1.142	2.858	3.61	1.7548
2	1.324	1.403	2.597	2.676	1.9837
3	1.324	1.403	2.597	2.676	2.0468

Source: Financial statements of banks, Ethiopia Macroeconomic and Social Indicators and own computation through STATA output

4.1.2.3. Test for Normality assumption

According to Wooldridge (2009), when the values of the independent variables in the sample, it is clear that the sampling distributions of the OLS estimators depend on the distribution of the errors. To make the sampling distributions of the mean, it is assumed that the unobserved error is normally distributed in the population. This is called the normality assumption.

The normality test helps to determine whether or not the sample data has been taken from a normally distributed population. As per the table below, for model one chi(2) is 0.8649 which is greater than 0.05. And chi(2) for models two and three are 6.6e-38 and 8.8e-50 respectively

which are nearly 0. Therefore, the null hypothesis cannot be rejected, and there is no violation of the normal distribution assumption.

Table 4.3: Normality test

Model	Jarque-Bera normality test	Chi(2)
1	0.2903	0.8649
2	171.2	6.6e-38
3	225.9	8.8e-50

Source: Financial statements of banks, Ethiopia Macroeconomic and Social Indicators and own computation through STATA output

4.1.3. RESULTS OF REGRESSION ANALYSIS

As described in the third chapter the models used in this study to test the effect of inflation on the reported profit of banks for decision making in Ethiopian banks were discussed in the following sub-sections. In this section, the empirical findings from the econometric results on the effects of inflation on the reported profit of banks for decision-making in Ethiopia are presented.

In simple linear regression, the size of the coefficient for each independent variable gives the size of the effect that the variable has on the dependent variable, and the coefficient sign indicates the direction of the effect. In regression with a single independent variable, if the coefficient is positive, it indicates that how much the dependent variable is expected to increase, or if the coefficient is negative, it indicates that how much the dependent variable is expected to decrease when that independent variable increases by one.

According to Prasad & Banerjee (2020), a standardized beta coefficient compares the strength of the effect of each independent variable to the dependent variable. If the absolute value of the beta coefficient is high, the effect is strong.

R-squared indicates how well the model or regression line fits the data and the proportion of variance in the dependent variable which is described by the independent variable. The P-value tells how confident can be that each variable has some correlation with the dependent variable.

The standard error is a measure of the accuracy of the model. It indicates the average error of the regression model. As the standard error reflects how wrong could be, the standard error needs to

be as small as possible. The standard error is used to help get a confidence interval for the predicted values.

The significance F is the probability that the null hypothesis in the regression model cannot be rejected. The significance F gives the probability that the model is wrong. In other words, it indicates the probability that all the coefficients in the regression output are zero. The value of F ranges from zero to a very large number. The significance F or the probability of being wrong has to be as small as possible.

According to Mintab (2016), a t-test is used to find evidence of a significant difference between population means or between the population mean and a hypothesized value. The t-value shows the size of the difference relative to the variation in the sample data. In other words, the t-value is simply the calculated difference represented in units of standard error. The greater the result of the t-value, the greater the evidence against the null hypothesis. This indicates there is greater evidence that there is a significant difference. The closer t-value is to 0, the more likely there isn't a significant difference.

4.1.3.1. Test of model one

H1: Inflation has a negative effect on the lending rate of Ethiopian banks.

$$\text{Lending Rate} = \beta_0 + \beta_1 (\text{Inflation}) + u$$

$$\text{Lending Rate} = 10.982 + 0.182\text{Inflation} + 0.065$$

Table 4.6: Model One Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.8498[a]	0.7222	0.6296	0.065	1.7548

Source: Financial statements of banks, Ethiopia Macroeconomic and Social Indicators and own computation through STATA output

a. Predictors: (Constant), Inflation
b. Dependent Variables: Lending Rate

Table 4.7: ANOVA[b]

Model	RegSS	ResSS	F	Sig.	t-value
1	1.302	0.501	0.0683	0.068[a]	2.79

Source: Financial statements of banks, Ethiopia Macroeconomic and Social Indicators and own computation through STATA output

a. Predictors: (Constant), Inflation
b. Dependent Variables: Lending Rate

Table 4.8. Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	Inflation	0.182	0.065	0.8498	2.79	0.068
	(Constant)	10.982	0.702		15.64	0.001

Source: Financial statements of banks, Ethiopia Macroeconomic and Social Indicators and own computation through STATA output

a. Dependent Variable: Lending Rate

In the model summary table 4.6, model one (1) confirms that R square, the coefficient of determination, shows that 72.22% of the variation in the dependent variable is explained by the model. Analysis of variance (ANOVA) was used to determine whether the model significantly explained the deviations in the dependent variable (lending rate) as presented in table 4.7 above. In model one (1) regression sum of squares (1.302) is greater than the residual sum of squares (0.501) which indicates that the model explains more of the variation in the dependent variable. The significance value of the F statistics (0.0683) is greater than 0.05, which means that the variation explained by the model is due to chance. In the coefficient table 4.8, the Inflation coefficient of 0.182 indicates a positive relationship between Inflation and Lending Rate, which is statistically significant (with t = 2.79).

4.1.3.2. Test of model two

H2: Inflation has a negative effect on the reported profits of Ethiopian banks.

$$\text{Profit} = \beta_0 + \beta_1 (\text{Inflation}) + u$$

$$\text{Profit} = 967.21 + 37.22 (\text{Inflation}) + 126.52$$

Table 4.9: Model Two Summary[b]

Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
AB	0.6916	0.4783	0.3044	97.72	2.2465
BOA	0.5492	0.3016	0.0687	29.59	2.1745
CBE	0.2269	0.0515	-0.2646	390.52	2.1704
CBO	0.6284	0.3949	0.1931	34.32	2.2416
DB	0.8347	0.6967	0.5956	13.51	2.3067
LIB	0.7493	0.5615	0.4153	19.21	2.2607
NIB	0.6604	0.4361	0.2481	20.65	2.2347
OIB	0.8814	0.7769	0.7025	26.14	2.4594
UB	0.7898	0.6238	0.4984	21.95	2.2557
WB	0.8263	0.6828	0.5771	18.92	2.1275
Combined Result	0.0424[a]	0.0018	-0.0190	125.62	0. 7945

Source: Financial statements of banks, Ethiopia Macroeconomic and Social Indicators and own computation through STATA output

a. Predictors: (Constant), Inflation
b. Dependent Variables: Profit

Table 4.10: ANOVA[b]

Banks	RegSS	ResSS	F	Sig.	t-value
AB	1,031,085.86	1,124,714.98	0.1958	0.196	1.66
BOA	44,524.60	103,125.44	0.3377	0.338	1.14
CBE	975,565.35	17,961,775.30	0.7135	0.714	-0.40
CBO	90,504.11	138,704.28	0.2562	0.256	1.40
DB	49,398.07	21,503.83	0.0787	0.079	2.63
LIB	55,629.58	43,443.82	0.1449	0.145	1.96
NIB	38,841.66	50,232.94	0.2251	0.225	1.52
OIB	280,094.76	80,445.93	0.0481	0.048	3.23
UB	94,121.22	56,769.35	0.1120	0.112	2.23
WB	90,796.66	42,180.28	0.0846	0.085	2.54
Combined Result	543,878.25	301,634,224	0.7699	0.770[a]	0.29

Source: Financial statements of banks, Ethiopia Macroeconomic and Social Indicators and own computation through STATA output

a. Predictors: (Constant), Inflation
b. Dependent Variables: Profit

Table 4.11. Coefficients[a]

Banks		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
AB	Inflation	162.06	97.72	.6915811	1.66	-0.40
	(Constant)	-420.48	1052.54		-0.40	0.716
BOA	Inflation	33.68	29.59	.5491402	1.14	0.338
	(Constant)	162.25	318.71		0.51	0.646
CBE	Inflation	-157.64	390.52	-.2269701	-0.40	0.714
	(Constant)	10,044.25	4206.20		2.39	0.097
CBO	Inflation	48.01	34.32	628375	1.40	0.256
	(Constant)	-174.54	369.62		-0.47	0.669
DB	Inflation	35.47	13.51	.8346917	2.63	0.079
	(Constant)	462.70	145.54		3.18	0.050
LIB	Inflation	37.64	19.21	.7493321	1.96	0.145
	(Constant)	-82.48	206.86		-0.40	0.717
NIB	Inflation	31.45	20.65	.6603466	1.52	0.225
	(Constant)	154.05	222.44		0.69	0.538
OIB	Inflation	84.47	26.14	.8814047	3.23	0.048
	(Constant)	-464.83	281.49		-1.65	0.197
UB	Inflation	48.96	21.95	.789792	2.23	0.112
	(Constant)	-43.62	236.47		-0.18	0.865
WB	Inflation	48.09	18.92	.8263172	2.54	0.085
	(Constant)	34.81	203.83		0.17	0.875
Combined Result	Inflation	37.22	126.52	.04243	0.29	0.770
	(Constant)	967.21	1362.69		0.71	0.481

Source: Financial statements of banks, Ethiopia Macroeconomic and Social Indicators and own computation through STATA output

a. Dependent Variable: Profit

1. Combined Result Analysis

In the model summary table 4.9, the model two combined result confirms that R square, the coefficient of determination, shows that 0.18% of the variation in the dependent variable is explained by the model. Analysis of variance (ANOVA) was used to determine whether the model significantly explained the deviations in the dependent variable (Profit) as presented in table 4.10 above. The model two combined result regression sum of squares (543,878.25) is less than the residual sum of squares (301,634,224) which indicates that a smaller amount of the variation in the dependent variable is explained by the model. The significance value of the F statistics (0.7699) is greater than 0.05, which means that the variation explained by the model is

due to chance. In the coefficient table 4.11, the Inflation coefficient of 37.22 indicates a positive relationship between Inflation and Profit, which is not statistically significant (with t = 0.29).

2. Awash Bank (AB) Result Analysis

In the model summary table 4.9, the model two combined result confirms that R square, the coefficient of determination, shows that 47.83% of the variation in the dependent variable is explained by the model. Analysis of variance (ANOVA) was used to determine whether the model significantly explained the deviations in the dependent variable (Profit) as presented in table 4.10 above. The model two AB regression sum of squares (1,031,085.86) is less than the residual sum of squares (1,124,714.98) which indicates that a smaller amount of the variation in the dependent variable is explained by the model. The significance value of the F statistics (0.1958) is greater than 0.05, which means that the variation explained by the model is due to chance. In the coefficient table 4.11, the Inflation coefficient of 162.06 indicates a positive relationship between Inflation and Profit, which is not statistically significant (with t = 1.66).

3. Bank of Abyssinia (BOA) Result Analysis

In the model summary table 4.9, the model two combined result confirms that R square, the coefficient of determination, shows that 30.16% of the variation in the dependent variable is explained by the model. Analysis of variance (ANOVA) was used to determine whether the model significantly explained the deviations in the dependent variable (Profit) as presented in table 4.10 above. The model two BOA regression sum of squares (44,524.60) is less than the residual sum of squares (103,125.44) which indicates that a smaller amount of the variation in the dependent variable is explained by the model. The significance value of the F statistics (0.3377) is greater than 0.05, which means that the variation explained by the model is due to chance. In the coefficient table 4.11, the Inflation coefficient of 33.68 indicates a positive relationship between Inflation and Profit, which is not statistically significant (with t = 1.14).

4. Commercial Bank of Ethiopia (CBE) Result Analysis

In the model summary table 4.9, the model two combined result confirms that R square, the coefficient of determination, shows that 5.15% of the variation in the dependent variable is explained by the model. Analysis of variance (ANOVA) was used to determine whether the model significantly explained the deviations in the dependent variable (Profit) as presented in

table 4.10 above. The model two CBE regression sum of squares (975,565.35) is less than the residual sum of squares (17,961,775.30) which indicates that a smaller amount of the variation in the dependent variable is explained by the model. The significance value of the F statistics (0.7135) is greater than 0.05, which means that the variation explained by the model is due to chance. In the coefficient table 4.11, the Inflation coefficient of -157.64 indicates a negative relationship between Inflation and Profit, which is not statistically significant (with t = -0.4).

5. Cooperative Bank of Oromia (CBO) Result Analysis

In the model summary table 4.9, the model two combined result confirms that R square, the coefficient of determination, shows that 39.49% of the variation in the dependent variable is explained by the model. Analysis of variance (ANOVA) was used to determine whether the model significantly explained the deviations in the dependent variable (Profit) as presented in table 4.10 above. The model two CBO regression sum of squares (90,504.11) is less than the residual sum of squares (138,704.28) which indicates that a smaller amount of the variation in the dependent variable is explained by the model. The significance value of the F statistics (0.2562) is greater than 0.05, which means that the variation explained by the model is due to chance. In the coefficient table 4.11, the Inflation coefficient of 48.01indicates a positive relationship between Inflation and Profit, which is not statistically significant (with t = 1.40).

6. Dashen Bank (DB) Result Analysis

In the model summary table 4.9, the model two combined result confirms that R square, the coefficient of determination, shows that 69.67% of the variation in the dependent variable is explained by the model. Analysis of variance (ANOVA) was used to determine whether the model significantly explained the deviations in the dependent variable (Profit) as presented in table 4.10 above. The model two DB regression sum of squares (49,398.07) is greater than the residual sum of squares (21,503.83) which indicates that the model explains more of the variation in the dependent variable. The significance value of the F statistics (0.0787) is greater than 0.05, which means that the variation explained by the model is due to chance. In the coefficient table 4.11, the Inflation coefficient of 35.47 indicates a positive relationship between Inflation and Profit, which is statistically significant (with t = 2.63).

7. Lion International Bank (LIB) Result Analysis

In the model summary table 4.9, the model two combined result confirms that R square, the coefficient of determination, shows that 56.15% of the variation in the dependent variable is explained by the model. Analysis of variance (ANOVA) was used to determine whether the model significantly explained the deviations in the dependent variable (Profit) as presented in table 4.10 above. The model two LIB regression sum of squares (55,629.58) is greater than the residual sum of squares (43,443.82) which indicates that the model explains more of the variation in the dependent variable. The significance value of the F statistics (0.1449) is greater than 0.05, which means that the variation explained by the model is due to chance. In the coefficient table 4.11, the Inflation coefficient of 37.64 indicates a positive relationship between Inflation and Profit, which is not statistically significant (with t = 1.96).

8. Nib International Bank (NIB) Result Analysis

In the model summary table 4.9, the model two combined result confirms that R square, the coefficient of determination, shows that 43.61% of the variation in the dependent variable is explained by the model. Analysis of variance (ANOVA) was used to determine whether the model significantly explained the deviations in the dependent variable (Profit) as presented in table 4.10 above. The model two NIB regression sum of squares (38,841.66) is less than the residual sum of squares (50,232.94) which indicates that a smaller amount of the variation in the dependent variable is explained by the model. The significance value of the F statistics (0.2251) is greater than 0.05, which means that the variation explained by the model is due to chance. In the coefficient table 4.11, the Inflation coefficient of 31.45 indicates a positive relationship between Inflation and Profit, which is not statistically significant (with t = 1.52).

9. Oromia International Bank (OIB) Result Analysis

In the model summary table 4.9, the model two combined result confirms that R square, the coefficient of determination, shows that 77.69% of the variation in the dependent variable is explained by the model. Analysis of variance (ANOVA) was used to determine whether the model significantly explained the deviations in the dependent variable (Profit) as presented in table 4.10 above. The model two OIB regression sum of squares (280,094.76) is less than the residual sum of squares (80,445.93) which indicates that a smaller amount of the variation in the dependent variable is explained by the model. The significance value of the F statistics (0.0481)

is less than 0.05, which means that the variation explained by the model is not due to chance. In the coefficient table 4.11, the Inflation coefficient of 84.47 indicates a positive relationship between Inflation and Profit, which is statistically significant (with t = 3.23).

10. United Bank (UB) Result Analysis

In the model summary table 4.9, the model two combined result confirms that R square, the coefficient of determination, shows that 62.38% of the variation in the dependent variable is explained by the model. Analysis of variance (ANOVA) was used to determine whether the model significantly explained the deviations in the dependent variable (Profit) as presented in table 4.10 above. The model two UB regression sum of squares (94,121.22) is less than the residual sum of squares (56,769.35) which indicates that the model explains more of the variation in the dependent variable. The significance value of the F statistics (0.1120) is greater than 0.05, which means that the variation explained by the model is due to chance. In the coefficient table 4.11, the Inflation coefficient of 48.96 indicates a positive relationship between Inflation and Profit, which is statistically significant (with t = 2.23).

11. Wegagen Bank (WB) Result Analysis

In the model summary table 4.9, the model two combined result confirms that R square, the coefficient of determination, shows that 68.28% of the variation in the dependent variable is explained by the model. Analysis of variance (ANOVA) was used to determine whether the model significantly explained the deviations in the dependent variable (Profit) as presented in table 4.10 above. The model two WB regression sum of squares (90,796.66) is less than the residual sum of squares (42,180.28) which indicates that more of the variation in the dependent variable is explained by the model. The significance value of the F statistics (0.0846) is greater than 0.05, which means that the variation explained by the model is due to chance. In the coefficient table 4.11, the Inflation coefficient of 48.09 indicates a positive relationship between Inflation and Profit, which is statistically significant (with t = 2.54).

Based on the result of the regression analysis, the null hypothesis is accepted. Out of the selected 10 banks, only 4 banks DB, OIB, UB, and WB profit is positively and significantly affected by Inflation. The other 6 banks AB, BOA, CBE, CBO, LIB, and NIB profit is affected positively

and not significantly by Inflation. This indicates that inflation on reported profit of Ethiopian banks has an insignificant effect.

4.1.3.3. Test of model three

H3: Inflation has a negative effect on the investment decisions of Ethiopian banks.

Investment Decision = $\beta_0 + \beta_1$ (Inflation) + u

Investment Decision = 415.502 + 382.593 (Inflation) + 149.304

Table 4.12: Model Three Summary[b]

Banks	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
AB	0.67201	0.4516	0.2689	369.6256	2.2837
BOA	0.70299	0.4942	0.3256	390.2898	1.8085
CBE	0.02646	0.0007	-0.3324	19803.43	1.9238
CBO	0.72574	0.5267	0.3689	359.6142	2.2903
DB	0.77762	0.6047	0.4729	359.0331	2.2898
LIB	0.75518	0.5703	0.4270	148.0179	2.2346
NIB	0.77389	0.5989	0.4652	151.9657	2.2141
OIB	0.71958	0.5178	0.3570	268.5881	2.2671
UB	0.79668	0.6347	0.5130	158.6505	2.2816
WB	0.81197	0.6593	0.5458	129.7304	2.3160
Combined Result	0.01414[a]	0.0002	-0.0206	5208.438	0.8876

Source: Financial statements of banks, Ethiopia Macroeconomic and Social Indicators and own computation through STATA output

a. Predictors: (Constant), Inflation
b. Dependent Variables: Investment

Table 4.13: ANOVA[b]

Banks	RegSS	ResSS	F	Sig.	t-value
AB	13,253,233.10	16,091,468.80	0.2140	0.214	1.57
BOA	17,530,461.90	17,940,972.50	0.1854	0.185	1.71
CBE	34,077,379.40	46,190,000,000.00	0.9654	0.965	0.05
CBO	16,949,634.60	15,231,587.60	0.1651	0.165	1.83
DB	23,223,746.10	15,182,401.60	0.1216	0.122	2.14
LIB	3,424,570.39	2,580,476.54	0.1400	0.140	2.00
NIB	4,061,714.26	2,719,960.49	0.1246	0.125	2.12
OIB	9,122,512.89	8,496,599.19	0.1706	0.171	1.79
UB	5,151,717.75	2,964,521.89	0.1066	0.107	2.28
WB	3,836,127.00	1,982,233.43	0.0951	0.095	2.41
Combined Result	113,675,106.00	511,220,000,000.00	0.9181	0.918a	0.10

Source: Financial statements of banks, Ethiopia Macroeconomic and Social Indicators and own computation through STATA output

a. Predictors: (Constant), Inflation
b. Dependent Variables: Investment

Table 4.14. Coefficients[a]

Banks		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
AB	Inflation	581.0129	369.6256	.6720415	1.57	0.214
	(Constant)	1612.052	3981.195		0.40	0.713
BOA	Inflation	668.2231	390.2898	.7030032	1.71	0.185
	(Constant)	-2314.233	4203.767		-0.55	0.620
CBE	Inflation	931.661	19803.43	.0271517	0.05	0.965
	(Constant)	317046.3	213300.5		1.49	0.234
CBO	Inflation	657.0599	359.6142	.7257364	1.83	0.165
	(Constant)	-2717.575	3873.363		-0.70	0.533
DB	Inflation	769.1144	359.0331	.777617	2.14	0.122
	(Constant)	973.288	3867.104		0.25	0.818
LIB	Inflation	295.3438	148.0179	.7551702	2.00	0.140
	(Constant)	-470.3776	1594.284		-0.30	0.787
NIB	Inflation	321.647	151.9657	.7739024	2.12	0.125
	(Constant)	1979.109	1636.805		1.21	0.313

OIB	Inflation	482.0389	268.5881	.7195571	1.79	0.171
	(Constant)	-1011.702	2892.932		-0.35	0.750
UB	Inflation	362.2437	158.6505	.7967069	2.28	0.107
	(Constant)	1711.327	1708.807		1.00	0.390
WB	Inflation	312.5873	129.7304	.8119816	2.41	0.095
	(Constant)	312.5873	1397.311		1.56	0.217
Combined Result	Inflation	538.0932	5208.438	.0149101	0.10	0.918
	(Constant)	31898.77	56099.5		0.57	0.572

Source: Financial statements of banks, Ethiopia Macroeconomic and Social Indicators and own computation through STATA output

a. Dependent Variable: Investment

1. Combined Result Analysis

In the model summary table 4.12, model three (3) confirms that R square, the coefficient of determination, shows that 0.02% of the variation in the dependent variable is explained by the model. Analysis of variance (ANOVA) was used to determine whether the model significantly explained the deviations in the dependent variable (Investment) as presented in table 4.13 above. The model three combined result regression sum of squares (113,675,106.00) is less than the residual sum of squares (511,220,000,000.00) which indicates that the model explains more of the variation in the dependent variable. The significance value of the F statistics (0.9181) is greater than 0.05, which means that the variation explained by the model is due to chance. In the coefficient table 4.14, the Inflation coefficient of 538.0932 indicates a positive relationship between Inflation and Investment, which is not statistically significant (with t = 0.10).

2. Awash Bank (AB) Result Analysis

In the model summary table 4.12, model three (3) confirms that R square, the coefficient of determination, shows that 45.16% of the variation in the dependent variable is explained by the model. Analysis of variance (ANOVA) was used to determine whether the model significantly explained the deviations in the dependent variable (Investment) as presented in table 4.13 above. The model three AB regression sum of squares (13,253,233.10) is less than the residual sum of squares (16,091,468.80) which indicates that the model explains more of the variation in the dependent variable. The significance value of the F statistics (0.2140) is greater than 0.05, which means that the variation explained by the model is due to chance. In the coefficient table

4.14, the Inflation coefficient of 581.0129 indicates a positive relationship between Inflation and Investment, which is not statistically significant (with t = 1.57).

3. Bank of Abyssinia (BOA) Result Analysis

In the model summary table 4.12, model three (3) confirms that R square, the coefficient of determination, shows that 49.42% of the variation in the dependent variable is explained by the model. Analysis of variance (ANOVA) was used to determine whether the model significantly explained the deviations in the dependent variable (Investment) as presented in table 4.13 above. The model three BOA regression sum of squares (17,530,461.90) is less than the residual sum of squares (17,940,972.50) which indicates that the model explains more of the variation in the dependent variable. The significance value of the F statistics (0.1854) is greater than 0.05, which means that the variation explained by the model is due to chance. In the coefficient table 4.14, the Inflation coefficient of 668.2231 indicates a positive relationship between Inflation and Investment, which is not statistically significant (with t = 1.71).

4. Commercial Bank of Ethiopia (CBE) Result Analysis

In the model summary table 4.12, model three (3) confirms that R square, the coefficient of determination, shows that 0.07% of the variation in the dependent variable is explained by the model. Analysis of variance (ANOVA) was used to determine whether the model significantly explained the deviations in the dependent variable (Investment) as presented in table 4.13 above. The model three CBE regression sum of squares (34,077,379.40) is less than the residual sum of squares (46,190,000,000.00) which indicates that the model explains more of the variation in the dependent variable. The significance value of the F statistics (0.9654) is greater than 0.05, which means that the variation explained by the model is due to chance. In the coefficient table 4.14, the Inflation coefficient of 931.661 indicates a positive relationship between Inflation and Investment, which is not statistically significant (with t = 0.05).

5. Cooperative Bank of Oromia (CBO) Result Analysis

In the model summary table 4.12, model three (3) confirms that R square, the coefficient of determination, shows that 52.67% of the variation in the dependent variable is explained by the model. Analysis of variance (ANOVA) was used to determine whether the model significantly explained the deviations in the dependent variable (Investment) as presented in table 4.13

above. The model three CBO regression sum of squares (16,949,634.60) is less than the residual sum of squares (15,231,587.60) which indicates that the model explains more of the variation in the dependent variable. The significance value of the F statistics (0.1651) is greater than 0.05, which means that the variation explained by the model is due to chance. In the coefficient table 4.14, the Inflation coefficient of 657.0599 indicates a positive relationship between Inflation and Investment, which is not statistically significant (with t = 1.83).

6. Dashen Bank (DB) Result Analysis

In the model summary table 4.12, model three (3) confirms that R square, the coefficient of determination, shows that 60.47% of the variation in the dependent variable is explained by the model. Analysis of variance (ANOVA) was used to determine whether the model significantly explained the deviations in the dependent variable (Investment) as presented in table 4.13 above. The model three DB regression sum of squares (23,223,746.10) is greater than the residual sum of squares (15,182,401.60) which indicates that a smaller amount of the variation in the dependent variable is explained by the model. The significance value of the F statistics (0.1216) is greater than 0.05, which means that the variation explained by the model is due to chance. In the coefficient table 4.14, the Inflation coefficient of 769.1144 indicates a positive relationship between Inflation and Investment, which is statistically significant (with t = 2.14).

7. Lion International Bank (LIB) Result Analysis

In the model summary table 4.12, model three (3) confirms that R square, the coefficient of determination, shows that 57.03% of the variation in the dependent variable is explained by the model. Analysis of variance (ANOVA) was used to determine whether the model significantly explained the deviations in the dependent variable (Investment) as presented in table 4.13 above. The model three LIB regression sum of squares (3,424,570.39) is greater than the residual sum of squares (2,580,476.54) which indicates that a smaller amount of the variation in the dependent variable is explained by the model. The significance value of the F statistics (0.1400) is greater than 0.05, which means that the variation explained by the model is due to chance. In the coefficient table 4.14, the Inflation coefficient of 295.3438 indicates a positive relationship between Inflation and Investment, which is statistically significant (with t = 2.00).

8. Nib International Bank (NIB) Result Analysis

In the model summary table 4.12, model three (3) confirms that R square, the coefficient of determination, shows that 59.89% of the variation in the dependent variable is explained by the model. Analysis of variance (ANOVA) was used to determine whether the model significantly explained the deviations in the dependent variable (Investment) as presented in table 4.13 above. The model three NIB regression sum of squares (4,061,714.26) is greater than the residual sum of squares (2,719,960.49) which indicates that a smaller amount of the variation in the dependent variable is explained by the model. The significance value of the F statistics (0.1246) is greater than 0.05, which means that the variation explained by the model is due to chance. In the coefficient table 4.14, the Inflation coefficient of 321.647 indicates a positive relationship between Inflation and Investment, which is statistically significant (with t = 2.12).

9. Oromia International Bank (OIB) Result Analysis

In the model summary table 4.12, model three (3) confirms that R square, the coefficient of determination, shows that 51.78% of the variation in the dependent variable is explained by the model. Analysis of variance (ANOVA) was used to determine whether the model significantly explained the deviations in the dependent variable (Investment) as presented in table 4.13 above. The model three OIB regression sum of squares (9,122,512.89) is greater than the residual sum of squares (8,496,599.19) which indicates that a smaller amount of the variation in the dependent variable is explained by the model. The significance value of the F statistics (0.1706) is greater than 0.05, which means that the variation explained by the model is due to chance. In the coefficient table 4.14, the Inflation coefficient of 482.0389 indicates a positive relationship between Inflation and Investment, which is not statistically significant (with t = 1.79).

10. United Bank (UB) Result Analysis

In the model summary table 4.12, model three (3) confirms that R square, the coefficient of determination, shows that 63.47% of the variation in the dependent variable is explained by the model. Analysis of variance (ANOVA) was used to determine whether the model significantly explained the deviations in the dependent variable (Investment) as presented in table 4.13 above. The model three UB regression sum of squares (5,151,717.75) is greater than the residual sum of squares (2,964,521.89) which indicates that a smaller amount of the variation in

the dependent variable is explained by the model. The significance value of the F statistics (0.1066) is greater than 0.05, which means that the variation explained by the model is due to chance. In the coefficient table 4.14, the Inflation coefficient of 362.2437 indicates a positive relationship between Inflation and Investment, which is statistically significant (with t = 2.28).

11. Wegagen Bank (WB) Result Analysis

In the model summary table 4.12, model three (3) confirms that R square, the coefficient of determination, shows that 65.93% of the variation in the dependent variable is explained by the model. Analysis of variance (ANOVA) was used to determine whether the model significantly explained the deviations in the dependent variable (Investment) as presented in table 4.13 above. The model three UB regression sum of squares (3,836,127.00) is greater than the residual sum of squares (1,982,233.43) which indicates that a smaller amount of the variation in the dependent variable is explained by the model. The significance value of the F statistics (0.0951) is greater than 0.05, which means that the variation explained by the model is due to chance. In the coefficient table 4.14, the Inflation coefficient of 312.5873 indicates a positive relationship between Inflation and Investment, which is statistically significant (with t = 2.41).

Based on the result of the regression analysis, the null hypothesis is accepted. Out of the selected 10 banks 5 banks DB, LIB, NIB, UB, and WB investment is positively and significantly affected by Inflation. The other 5 banks AB, BOA, CBE, CBO, and OIB profit is affected positively and significantly by Inflation. This indicates that inflation on investment of Ethiopian banks has a significant effect.

CHAPTER FIVE – SUMMARY, CONCLUSION, AND RECOMMENDATION

The conclusions and recommendations are provided based on the findings of the study in this chapter. The chapter is organized into two sections. The first section presents the conclusions and the second section presents the recommendations.

5.1. SUMMARY

Based on the hypothesis testing result of the combined result one hypothesis (H1) was accepted and supported by the finding. The result of regression analysis shows that the significance value of the F statistics (0.0683) is greater than 0.05, which means that the variation explained by the model is due to chance. The Inflation coefficient of 0.182 indicates a positive relationship between Inflation and Lending Rate, which is statistically significant (with t = 2.79). This indicates that banks' lending rate is affected positively and significantly by Inflation.

Based on the hypothesis testing result of the combined result two hypotheses (H2 and H3) were rejected and not supported by the finding. The result of regression analysis of hypothesis 2 (H2) shows that the significance value of the F statistics (0.7699)) is greater than 0.05, which means that the variation explained by the model is due to chance. The Inflation coefficient of 37.22 indicates a positive relationship between Inflation and Profit, which is not statistically significant (with t = 0.29). This indicates that banks' reported profit is affected positively and insignificantly by Inflation.

The result of regression analysis of hypothesis 3 (H3) shows that the significance value of the F statistics (0.9181) is greater than 0.05, which means that the variation explained by the model is due to chance. The Inflation coefficient of 538.0932 indicates a positive relationship between Inflation and Investment, which is not statistically significant with t = 0.10. This indicates that banks' investment is affected positively and insignificantly by Inflation.

5.2. CONCLUSIONS

The main purpose of this research was to analyze the effect of inflation on the reported profit of Ethiopian banks between the 2015 – 2019 fiscal years. According to the past studies reviewed in chapter 2, it was obvious that not much research has been carried out in Ethiopia. In the review

of the empirical literature, many variables were identified as the effect of reported profit of banks. The study was focused on determining the extent to which lending decisions in Ethiopian banks were affected by inflation and also, how inflation under the inflationary period was affected the investment decisions and the reported profit of Ethiopian banks between 2015 to 2019. The researcher purposively selected ten banks out of currently operational eighteen banks and collected secondary data from the National Bank of Ethiopia and annually published report of Ethiopian banks.

The study variables included were lending rate, profit, and investment as an independent variable and inflation rate as the dependent variable. STATA statistical software package was used to analyze the data. The study goes through the diagnostic tests of heteroscedasticity, normality, and autocorrelation. Some important factors but impractical here in Ethiopia, such as gearing and solvency, found as a significant variable in other similar studies were not included in this study.

The most appropriate tool identified for the analysis of the data was regression analysis. The statistical values of the data were discovered by descriptive statistics. Besides, the OLS assumptions were tested and heteroscedasticity was not presented in the residuals, free of autocorrelation, and normally distributed. The result shows that the lending rate has a significant relationship with inflation. The other two explanatory variables profit and investment were found to be insignificant in the context of Ethiopian banks. Besides, the study has shown a positive coefficient for all variables. Similarly, the coefficient of determination (R^2) of 0.7222 indicates that 72% of the total variations of the dependent variable lending rate were explained by the explanatory variable inflation. The value of Durbin-Watson statistics (DW) shows that there was no presence of autocorrelation; hence, the model produced a significant result.

Based on this study, the relationship between inflation and reported profit is obvious because the increase or decrease of inflation determines economic stability, a measure of saving and investment. The decision of banks also conforms to the trends and situation of the economy either in lending, reported profits, or investment decisions. Thus in the presence of all these factors, inflation has an insignificant positive effect on the reported profit for decision-making.

5.1. RECOMMENDATIONS

Based on the observed consistent high inflation rate and its effect on banks lending rate, the management and policymakers of banks in Ethiopia should come up with better strategies of countering the inflation effect to allow sustained profits and attract customers and prevent them from minimizing and terminating borrowing. Besides, the findings of this study should help the National Bank of Ethiopia develop better policies to stabilize the inflation rates to the lowest value that does not highly impact the reported profit of banks.

5.2. SUGGESTIONS FOR FURTHER RESEARCH

Based on the findings of this study, the significance test of the effect of inflation rate on dependent variables, profit and investment have failed and inflation has a significant effect on the lending rate of banks. Therefore, there is a need for more research to be conducted on the same topic in Ethiopia. To understand how lending rates affect the reported profit of banks, there is a need for further research to be conducted. This can be either on the effect of lending rate on the return of asset (ROA) or return of equity (ROE) or all of them depending on availability of resources and data.

This study has established good findings; however, they are limited to banks. To allow for generalization of the findings, there is a need for an elaborate study that includes both banks and financial institutions, microfinance and insurance, registered and operating within the same study period to allow for accuracy and reliability of findings. This will help both financial institutions and banks to develop strategies that will assist in assigning the lending rates. A study that involves both quantitative and qualitative data should be done on this topic to help understand deeper why some banks are making a low profit. Besides, a study involving interviews with banks' management can give a different insight in addition to the one already obtained quantitatively. This will provide primary data that will be supporting the already available secondary data.

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APPENDIX

THE TEN BANK'S ASSET, INVESTMENT, EQUITY, PROFIT, ROA, ROE, INFLATION RATE AND LENDING RATES

Year	Bank ID	Bank	Asset (millions)	Investment (millions)	Equity (millions)	Profit (millions)	Profit Margin	ROA	ROE	Inflation Rate	Lending Rate
2015	1	AB	23,869.61	5,433.55	3,090.38	645.34	28.00	23.00	2.90	7.70	11.88
2016	1	AB	29,609.60	5,394.76	3,815.53	743.77	26.30	21.50	2.80	9.70	12.75
2017	1	AB	41,974.86	6,974.42	4,662.66	1,003.37	26.70	23.70	2.80	7.40	12.75
2018	1	AB	55,268.10	8,573.15	4,869.96	1,492.43	27.60	31.30	3.10	14.60	13.50
2019	1	AB	74,635.40	11,897.05	7,005.12	2,439.72	30.30	41.10	3.80	12.60	13.50
2015	2	BOA	13,667.55	15.09	1,810.55	291.74	24.17	17.47	2.34	7.70	11.88
2016	2	BOA	16,828.06	3,714.19	2,124.42	360.57	22.08	18.33	2.36	9.70	12.75
2017	2	BOA	25,324.80	5,204.48	2,904.81	570.31	23.84	22.68	2.71	7.40	12.75
2018	2	BOA	31,984.06	6,577.33	4,245.36	562.80	17.19	15.74	1.96	14.60	13.50
2019	2	BOA	39,294.43	7,665.35	4,950.40	777.00	18.12	16.90	2.18	12.60	13.50
2015	3	CBE	625,061.57	465,360.81	12,911.77	8,130.41	37.36	68.82	1.88	7.70	11.88
2016	3	CBE	383,852.77	192,979.93	14,800.49	8,293.24	30.28	59.85	1.64	9.70	12.75
2017	3	CBE	490,068.24	260,772.31	44,554.00	8,747.18	27.84	29.47	2.00	7.40	12.75
2018	3	CBE	573,894.28	319,205.75	47,205.73	5,366.35	13.77	11.70	1.01	14.60	13.50
2019	3	CBE	712,882.22	395,359.05	50,248.68	11,487.04	21.35	23.57	0.01	12.60	13.50
2015	4	CBO	11,462.06	1,562.36	1,414.91	312.44	25.00	25.00	3.00	7.70	11.88
2016	4	CBO	10,626.20	1,827.70	1,220.95	34.97	3.00	3.00	-	9.70	12.75
2017	4	CBO	17,724.23	3,358.30	1,517.05	179.58	12.00	13.00	1.00	7.40	12.75
2018	4	CBO	29,888.03	5,470.45	2,375.70	439.21	18.00	23.00	2.00	14.60	13.50

2019	4	CBO	41,790.80	8,360.43	3,289.56	657.78	18.00	23.00	2.00	12.60	13.50
2015	5	DB	24,763.88	5,858.68	2,923.89	729.13	28.99	26.41	3.12	7.70	11.88
2016	5	DB	28,576.43	6,488.89	3,357.83	727.05	26.60	23.15	2.73	9.70	12.75
2017	5	DB	34,624.60	8,280.71	3,992.98	756.11	22.14	20.57	2.39	7.40	12.75
2018	5	DB	45,425.38	11,043.79	5,866.61	928.95	20.97	18.84	2.32	14.60	13.50
2019	5	DB	56,218.41	13,188.32	6,846.78	1,016.79	18.99	16.00	2.00	12.60	13.50
2015	6	LIB	5,859.35	1,262.30	822.12	150.58	24.00	21.00	3.00	7.70	11.88
2016	6	LIB	8,119.23	1,704.86	1,069.86	196.16	21.92	20.74	2.81	9.70	12.75
2017	6	LIB	10,975.90	2,416.48	1,448.88	268.46	25.75	21.32	2.81	7.40	12.75
2018	6	LIB	14,319.60	3,338.54	1,808.87	390.77	25.93	23.99	3.09	14.60	13.50
2019	6	LIB	20,391.60	4,283.81	2,559.45	539.03	24.30	24.68	3.11	12.60	13.50
2015	7	NIB	13,256.12	3,859.15	2,177.30	337.07	27.89	16.28	2.81	7.70	11.88
2016	7	NIB	15,830.38	4,294.21	2,517.96	389.79	27.24	16.60	2.68	9.70	12.75
2017	7	NIB	21,019.71	5,226.66	2,954.06	443.40	22.75	16.21	2.41	7.40	12.75
2018	7	NIB	26,688.92	6,301.46	3,380.40	514.85	20.78	16.26	2.16	14.60	13.50
2019	7	NIB	33,717.42	6,939.71	4,411.04	720.75	21.61	18.50	2.39	12.60	13.50
2015	8	OIB	9,534.84	1,993.40	985.23	150.90	19.80	17.40	1.90	7.70	11.88
2016	8	OIB	11,281.58	2,442.02	1,317.82	155.18	15.00	13.50	1.50	9.70	12.75
2017	8	OIB	16,292.90	3,479.08	1,665.66	288.38	19.30	19.30	2.10	7.40	12.75
2018	8	OIB	23,796.73	4,924.53	2,591.44	727.71	29.50	34.20	3.60	14.60	13.50
2019	8	OIB	31,779.31	7,168.48	3,712.59	745.87	23.10	23.70	2.70	12.60	13.50
2015	9	UB	14,360.87	4,131.70	1,686.24	281.32	21.00	17.00	2.00	7.70	11.88
2016	9	UB	17,269.87	4,449.31	2,072.49	339.02	20.00	18.00	2.00	9.70	12.75

2017	9	UB	21,902.92	4,928.92	2,515.63	381.72	19.00	17.00	2.00	7.40	12.75
2018	9	UB	28,030.93	6,367.56	2,953.81	573.63	20.00	21.00	2.00	14.60	13.50
2019	9	UB	35,736.10	7,515.82	3,859.59	752.31	20.00	22.00	2.00	12.60	13.50
2015	10	WB	13,711.36	4,219.71	2,414.37	352.45	26.57	15.46	2.82	7.70	11.88
2016	10	WB	16,189.16	4,410.12	2,805.77	375.62	24.50	14.39	2.51	9.70	12.75
2017	10	WB	20,949.16	5,164.71	3,355.79	532.16	24.83	17.27	2.87	7.40	12.75
2018	10	WB	27,390.91	6,429.90	3,826.51	793.56	25.70	22.10	3.28	14.60	13.50
2019	10	WB	29,770.01	6,927.74	4,293.62	620.96	19.35	15.29	2.17	12.60	13.50

Source: Financial statements of banks, Ethiopia Macroeconomic and Social Indicators 2015 - 2019