Literature Review on the Determinants of Commercial Bank’s Profitability: A Comprehensive Modelling

Fentaw Leykun Fisseha
Bahir Dar University, College of business and economics, Accounting and finance department,
Lecturer, PhD fellow at Punjabi university Patiala, India

Abstract
The aim of the term paper was to discuss most of the important ideas on the determinants of commercial banks’ profitability in case of Ethiopia banking sector and summarize, organize, and synthesize the results from several papers reviewed. Conceptual literature on the major concepts and issues relating to the subject matter, empirical literature on each of the variables of the study, methodologies used by the past studies, the research questions/hypotheses answered/tested, the variables used and their measurement, and the research techniques adopted with their strengths and weaknesses, theoretical framework where models and theories relevant to the research questions/hypotheses and research problems have been reviewed. As a reflection the reviewer has observed some deficiencies regarding the compatibility of ordinary least square model for the persistent nature of finance variables, GMM model is preferable and some controversy in ownership identity and concentration; some scholars considered as moderating variable, some ignores it and the rest considered as industry specific factor. In addition most of the findings are based on the post positivism paradigm (quantitative approach); pragmatism paradigm (mixed one) is preferable for a number of reasons. Lastly, the reviewer concludes the knowledge gap needs further research on the determinants of banks’ profitability in Ethiopia since little research with divergent outcomes are found as it was discussed in the main body of the review.

Key words: profitability, determinants, theories, Ethiopia

1. Introduction
In general, in a term paper or survey paper, you must discuss most of the important ideas on a particular topic, which means that several papers will likely need to be used as sources of information. This implies you need to choose a topic that is narrow enough to cover thoroughly in a short paper. In a survey paper or term paper, you will summarize, organize, and synthesize the results from the papers you read in the Results section (Klostermeyer).

The study of profits is important not only because of the information it provides about the health of the economy in any given year, but also because profits are a key determinant of growth and employment in the medium-term. Changes in profitability are an important contributor to economic progress via the influence profits have on the investment and savings decisions of companies. This is because a rise in profits improves the cash flow position of companies and offers greater flexibility in the source of finance for corporate investment (i.e. through retained earnings). Easier access to finance facilitates greater investment which boosts productivity, productive capacity, competitiveness and employment.

The existence, growth and survival of a business organization mostly depend upon the profit which an organization is able to earn. It is true that when Profitability increases the value of shareholders may increase to considerable extent. The term profitability refers to the ability of the business organization to maintain its profit year after year. The profitability of the organization will definitely contribute to the economic development of the nation by way of providing additional employment and tax revenue to government exchequer. Moreover, it will contribute the income of the investors by having a higher dividend and thereby improve the standard of living of the people (Mukaila, Imoh & Adeniyi 2013)

A bank is a financial institution that provides banking and other financial services to their customers. A bank is generally understood as an institution which provides fundamental banking services such as accepting deposits and providing loans. There are also nonbanking institutions that provide certain
banking services without meeting the legal definition of a bank. Banks are a subset of the financial services industry.

All the banks safeguard the money and valuables and provide loans, credit, and payment services, such as checking accounts, money orders, and cashier’s cheques. The banks also offer investment and insurance products. As a variety of models for cooperation and integration among finance industries have emerged, some of the traditional distinctions between banks, insurance companies, and securities firms have diminished. In spite of these changes, banks continue to maintain and perform their primary role—accepting deposits and lending funds from these deposits.

Improving access to financial services to private agencies, financial depth in the sub-region has remained very low and not improving over the years. Commercial bank performance has been poor characterized by low levels of private credit, high interest rate spreads, high levels of non-performing loans, poor asset quality, operational inefficiencies, among others (Panayiotis et al 2005: as cited in Francis 2013).

The World Bank (2006) recognized that there are few signs of sustainable progress arising from financial sector and public enterprise reform. The report called for more wide reforms in the financial sector to achieve higher efficiency in the banking sector. It is the growth and efficiency of commercial banks in many countries that would be important to finance the desired economic growth in the different segments of the economy.

During the last two decades, the banking sector in Africa and in the rest of the developing world has experienced major transformation in its operating environment. In a number of countries, financial sector reforms have been implemented. In these reforms, the role of commercial banks has remained central in financing economic activities in the various segments of the markets especially in Sub-Saharan Africa (SSA). Panayiotis et al. (2005), Naceur & Goaied (2001; 2003) among others, showed that both external as well as domestic factors have contributed to growth in performance of SSA banks in the last two decades.

On the other hand Kiganda (2014) suggested that Commercial banks appear very profitable in Sub-Saharan Africa (SSA), average returns on assets were about 2 percent over the last 10 years, significantly higher than bank returns in other parts of the world.

Valentina, Calvin & Liliana (2009) have tried to answer these questions; firstly, why are banks so profitable in Africa? Standard asset pricing models imply that arbitrage should ensure that riskier assets are remunerated with higher returns. Bank profitability should then reflect bank-specific risk, as well as risks associated with the macroeconomic environment (non-diversifiable, systemic risk). Progress has been achieved by many SSA countries in banking, supervisory and regulatory reforms, as well as in the implementation of structural reforms to reduce financial risks and promote financial development. However, banks in most SSA countries still operate in risky financial environments, which include weak legal institutions and loose enforcement of creditor rights. Hence, risk appears a good explanation for high returns. Weak economic performance also expose banks to risk as low economic growth promotes the deterioration of credit quality, and increases the probability of loan defaults. In addition, other factors can have an impact on bank returns such as market power and regulations can prevent arbitrage, and, consequently keep returns high. While in most SSA countries, there are few barriers to bank entry; aversion to a high risk environment is likely to impose a natural barrier to foreign bank entry.

Secondly, Should high bank returns be seen as a negative feature for financial intermediation in SSA countries? This could be the case if high returns imply high interest rates on loans. Moreover, if high returns are the consequence of market power, this would imply some degree of inefficiency in the provision of financial services. In this regard, high returns could be a negative outcome that should prompt policymakers to introduce measures to lower risk, remove bank entry barriers if they exist, as
well as other obstacles to competition, and re-examine regulatory costs. But bank profits are also an important source for equity. If bank profits are reinvested, this should lead to safer banks, and, consequently, high profits could promote financial stability.

On the other hand, the role of foreign banks in developing countries—and associated policy implications—has been hotly debated. Some argue that foreign banks and particularly large international banks should be allowed to operate in developing countries because they increase the capacity of local banking sectors to lend and support development and introduce international practices and know-how, which spills over to domestic banks and increases the efficiency of financial intermediation. Others maintain that international banks are too powerful and thus their presence deprives the domestic banking industry of a chance to develop. At the same time, several observers note that international banks typically favour large and foreign-owned corporations at the expense of local entrepreneurs. Martin & Richard (2005). Furthermore, divergent empirical results are found in this regard; Claessens et al. (2001) found that foreign banks have higher profits than domestic banks in developing countries, while the opposite is true for developed countries. This suggests that increased presence of foreign banks is generally associated with a reduction in profitability and margins for domestic banks. Again, in a follow-up paper, Claessens and Lee (2003) focus on financial systems in 58 low-income countries and find that increased presence of foreign banks seems to have had benefits for local banking systems by reducing financial intermediation costs and making systems more efficient and robust. Clarke et al. (2001), using data from a large cross-country survey of enterprises, find that foreign bank penetration improves financing conditions for all enterprises, although it seems to benefit larger firms more.

In spite of the aforementioned discussion, Ethiopia appears unique compared to its East African neighbours (namely Kenya, Tanzania, and Uganda) and many other developing countries in that it has not yet opened its banking sector to foreign participation. The Ethiopian banking sector remains isolated from the impact of globalization. Although Ethiopian policymakers understand the potential importance of financial liberalization, it is widely believed that liberalization may result in loss of control over the economy and may not be economically beneficial. Kozo, Barbara & Stern (2007). Furthermore, the “Banking Business Proclamation No. 592/2008” of Ethiopia states that foreign nationals or organizations fully or partially owned by foreign nationals may not be allowed to open banks or branch offices or subsidiaries of foreign banks in Ethiopia or acquire the shares of Ethiopian banks.

Stieglitz (2002 p. 31) says: “When global financial institutions enter a country, they can squelch the domestic competition. And as they attract depositors away from the local banks in a country like Ethiopia, they may be far more attentive and generous when it comes to making loans to large multinational corporations than they will to providing credit to small businesses and farmers.”

Ethiopia’s financial sector remains closed and is much less developed than its neighbours. Ethiopia has no capital market and very limited informal investing in shares of private companies. A series of financial sector reforms has been introduced since 1994, when private banks were allowed to be re-established. But the three large state-owned banks continue to dominate the market in terms of capital, deposits and assets. Ethiopian financial system is highly bank dominated. From 2001 to 2008, the banking sector constitutes 95 percent of assets, 96.53 percent of deposits, 94 percent of loans and deposits and 76.78 percent of equity of the financial sector on average (Kapur & Gualu 2011).

Thus, the financial system is an important ingredient in any economic environment of a country. The very function of this particular sector has an immense impact on the economic system. Hence, it is very much essential for a country to look after its financial system continuously. The soundness and safety of the financial system could be done by assessing the performance and determinants of performance and act accordingly to curve the situation to the benefit of the individual institutions, financial system and to the economy at large.
On the whole, in order to survive in the long run it is important for banks to find out what are the determinants of profitability so that it can take initiatives to increase its profitability. However, owing to the fact that there are few studies on the determinants of bank profitability in Ethiopia; indicating divergent views with different methodologies about the effect of bank specific, industry specific and macroeconomic factors on banks’ profitability in the country.

2. Objectives
The objective of this paper is to:
Examine the determinants of banks’ profitability and look after emerging theories and models in the area, and put some reflections of the reviewer that needs further research.

3. Methodology
To achieve the stated objective, the review will be performed by coming across through different written secondary sources such as journal articles, books, discussion papers ...etc to come up with certain conclusions and reflections of the reviewer as opening that need further examination/research on the subject matter.

4. Review of related literature
To keep its coherence as per the advice of different scholars, this part of the paper has been organized as follows;

1. Review conceptual literature on the major concepts and issues relating to the subject matter.
2. Review of empirical literature on each of the variables of the study. This includes a review of the methodologies used by the past studies, the research questions /hypotheses answered/tested, the variables used and their measurement, and the research techniques adopted with their strengths and weaknesses.
3. Review Theoretical framework where models and theories relevant to the research questions/ hypotheses and research problems, and eventually selecting and justifying the model/theory chosen to guide further the study as reflection of the reviewer. Shortcomings and possible contradictions in findings of existing studies would also be discussed in subsequent section.

4.1 Review of conceptual literature /theoretical framework
There is no general theory of profitability that provides a unifying framework for the study of financial performance determinant of the commercial banking industry.

4.1.1 The signalling theory, expected bankruptcy cost hypothesis, risk-return hypothesis, market power and efficiency structures hypotheses.

Obamuyi (2013) examines some of the theories relating to capital and profitability as well as bank size and profitability. The theories include the signalling theory, expected bankruptcy cost hypothesis, risk-return hypothesis, market power and efficiency structures hypotheses. The relationship between capital and profitability is explained by signalling theory (Berger 1995) expected bankruptcy cost hypothesis and risk-return Hypothesis (Athanasoglou 2008). The signalling hypothesis suggests that a higher capital is a positive signal to the market of the value of a bank. As Berger (1995) observe, under the signalling theory, bank management signals private information that the future prospects are good by increasing capital. Thus, a lower leverage indicates that banks perform better than their competitors who cannot raise their equity without further deteriorating the profitability. On the other hand, bankruptcy hypothesis argues that in a case where bankruptcy costs are unexpectedly high, a bank holds more equity to avoid period of distress (Berger 1995). Both the signalling hypothesis and bankruptcy cost hypothesis support a positive relationship between capital and profitability. However, the risk-return hypothesis suggests that increasing risks, by increasing leverage of the firm, leads to higher expected returns. Therefore, if a bank expects increased returns (profitability) and takes up more risks, by increasing leverage, the equity to asset ratio (represented by capital) will be reduced. Thus, risk-return hypothesis predicts a negative relationship between capital and profitability (Dietrich & Wanzenrid 2011) consequently; the Market Power (MP) and efficiency Structure (ES) theories
explain the relationship between the bank size and profitability. Olweny and Shipho (2011) observe that the market power posits that performance of banks is influenced by the market structure of the industry and that the efficiency Structure (ES) hypothesis maintains that banks earn high profits because they are more efficient than the others. Concluding on the MP and ES theories, Olweny and Shipho (2011) argue that MP theory assumes that the profitability of a bank is a function of external market factors, while the ES assume that bank profitability is influenced by internal efficiencies.

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

The main theoretical explanation for the relationship between the ownership structure and profitability is based on the agency theory, first formalized by Jensen and Meckling (1976). Their research explains why managers of entities with different capital structures, choose different activities. In a relationship between owners and managers, a principal-agent relationship, both differs in needs and preferences. In this context, an obvious theoretical argument for the relationship between the ownership structure and profitability arise: capital market discipline could strengthen owner’s control over management, giving banks’ management more incentives to be efficient and profitable. Following Jensen and Meckling (1976) their results has implications for banks’ profitability as results suggest that the ownership structure and corporate governance structure influence performance. Banks with more stringent and value based owners will likely have better profitability than mutual, co-operative or state-owned banks.

Finally, the balance sheet structure could also influence banks’ profitability; in this context, the equity-to-asset ratio is an important balance sheet ratio that received much attention. For this ratio, theoretical explanations assume different signs of the relationship with profitability. According to the Modigliani-Miller theorem there exists no relationship between the capital structure (debt or equity financing) and the market value of a bank (Modigliani & Miller 1958). In this context, there does not exist a relationship between the equity-to-asset ratio and funding costs or profitability. Nevertheless, as it was already mentioned in the agency problem, information asymmetry and transaction costs distort MM’s perfect market. Thus, when the perfect market does not hold there could be a possible explanations for a negative relationship. Financing theory suggest that increasing risks, by increasing leverage and thus lowering the equity-to-asset ratio (increasing leverage), leads to a higher expected return as entities will only take on more risks when expected returns will increase; otherwise, increasing risks have no benefits. This theoretical explanation is known as the risk-return trade off.

4.2 Market Structure Theories and Bank Profitability
The traditional theory of the firm was assumed that a firm’s objective is simply to maximize profits. In practice this theory is not applicable because of most modern industries, involvement in providing a variety of products/services, and faced with much more complex decisions to be taken in a dynamic and uncertain environment Devinaga (2010). The central assumption of this theory is, the industry structure (measured by market concentration intern of market share ratio) has impact on profitability of banks. The literature on the measurement of market structure (structural approach) divided into two
mainstreams, called the structure–conduct–performance (SCP) paradigm and the efficiency structure hypothesis (ESH).

Market structure theory suggested two alternative policy drives in order to increase profit of the bank industry and to rationalize market structure in the banking industry (Byeongyong et al. 2005). The first one lies in limiting the number of banking units in the market through encouraging mergers among existing banks. This is to increase the bank size for pursuing scale economies. The second strategy is the sharing common facilities such as Automated Teller Machines (ATM) with other banks in the industry. Both strategies may be useful in enhancing the competition in the market and improving the overall profitability and efficiency of the market. As explained in the efficient structure hypothesis (ESH), there is no need to encourage mergers, since the efficient entities can improve their market share by providing banking services, which is more economical in the market. Therefore, ESH suggests instead of encouraging bank mergers, the ESH supports policies that may encourage sharing common facilities to avoid duplication of capital cost.

4.2.1 Structure Conduct Performance (SCP) Hypothesis

Market structure conduct and performance (SCP) framework derived from the neo-classical analysis of markets. It first formalized by Mason in 1939 as a method of analyzing markets and firms (Worthington et al., 2001). The SCP was the central opinion of the Harvard school of thought and popularized during 1940-60 with its empirical work involving the identification of correlations between industry structure and profitability. Most early research explanation for the relationship between the market concentration and profitability based on the structure-conduct-performance (SCP) hypothesis, and focused on the interpretation of a positive empirical relationship between concentration and profitability (Goddard et al. 2004).

The SCP paradigm asserts that there is a relationship between the degree of market concentration and the degree of competition among firms. This hypothesis assumes that firms behave or rivalry in the market determined by market structure conditions, especially the number and size distribution of firms in the industry and the conditions of entry. This rivalry leads to unique levels of prices, profits and other aspects of market performance (Berger et al. 1989). The Structure-Conduct-Performance (SCP) hypothesis, which also sometimes referred to as the MP hypothesis, asserts that increased market power yields monopoly profits. A special case of the SCP hypothesis is the Relative-Market-Power (RMP) hypothesis, which suggests that only firms with large market shares and well-differentiated products are able to exercise market power and earn non-competitive profits (Berger 1995).

The assumptions of SCP hypotheses have been applied in different research by various researcher and supported positive relationship between market concentration (measured by concentration ratio) and performance (measured by profits) exists. Furthermore, SCP recognized the competitiveness of small market share banks with large market share is weak as a result the positive relationship between market concentration and performance (profitability) of high market share banks exist (Berger 1989). As explained in the SCP, the market concentration encourages collusion among large firms in the industry, which subsequently leads to higher profits. Hence, SCP pointed out those changes in market concentration may have a direct influence on a firm’s financial performance. Firms in more concentrated industries can earn higher profit than firms operating in less concentrated industries earn, irrespective of their efficiency (Goldberg et al. 1996).

The relative market power hypothesis (RMPH) which is a special case of SCP posited that only banks with large market shares and well differentiated service lines are able to exercise market power to gain superior profit on non-competitive price setting behaviour (in this case service charge) Berger (1995); Berger & Hannan (1989) investigated the profit-structure relationship in banking, providing tests of the RMP hypotheses. To some extent, the RMP hypothesis verified that superior management and increased market share (especially in the case of small-to medium-sized banks) raise profits. SCP, in general, provides two main benefits to studies, which investigate the banks profit behaviour. First, it shows the way to the banks profits are operating. Thus, it explains different forces that restrict or expand the scope of banks’ operations in the market. Especially with profitability studies, SCP helps to
interpret different sources of productivity and efficiency gains or losses. Second, SCP provides a rational basis for analyzing the market behaviour.

4.2.2 The Efficient Structure Hypothesis (ESH)
The second formulation of theoretical framework for studying determinants of commercial banks profitability is the efficient structure hypothesis. According to the ‘efficiency’ hypothesis, a positive concentration– profitability relationship may reflect a positive relationship between size and efficiency. It states that efficient banks in the market lead to increase in the firms’ size and market share due to the aggressive behaviour. This behaviour of the efficient banks allowed such firms to concentrate and earn higher profits with further enhancing their market share. Those firms can maximize profits either by maintaining the present level of product price or service charge and firms’ size or by reducing the service charge and expanding the firm size (Smirlock 1985).

Finally, the ESH stated that the positive relationship between profit and concentration results from the lower cost achieved through superior management and efficient production process. In contrast to SCP hypothesis, the ESH uncertain whether the high profits of large banks are a consequence of concentrated market structures and collusion. As explained by Berger and Hannan (1989), ESH and SPC stand on similar observation on the relationship between concentration and performance (profitability). However, the difference in two theories consisted mainly in ways of interpretation of the relationship.

4.3 Conceptual Framework of Profitability
Bank profits are influenced by internal and external factors (Kiganda 2014); internal factors are affected by management decisions and goals to be achieved by the bank. Internal factors can be grouped into two groups of variables related to the financial statements and variables unrelated to the financial statements. Financial statement variables are variables that arise from the decision of the bank management that affect the items on the balance sheet and income statement. Non-financial statement variables are variables that are not directly related to the financial statements such as the number of branch offices, and the status of bank branches (main, auxiliary, cash offices). External factors are factors that are beyond the control of the bank, which is linked with economic and environmental conditions that affect the bank’s operations and performance such as competition, government regulation, and ownership, lack of capital, the money supply and inflation.

4.4 Bank Performance Indicators/dependent variables
Profitability connotes a situation where the income generated during a given period exceeds the expenses incurred over the same length of time for the sole purpose of generating. Profit is the ultimate goal of commercial banks. All the strategies designed and activities performed thereof are meant to realize this grand objective. However, this does not mean that commercial banks have no other goals. Commercial banks could also have additional social and economic goals.
A company remains in operation because it expects to make profits. Once that expectation is confirmed unattainable, the most rational decision is to close shop or exit the business.

Profit, in effect, is a simple residual concept but its level is determined by the complex interaction of a multitude of factors (Nugent 1998). If we begin at the level of the firm, the typical firm’s profit (denoted by \( \Pi \)) in a simple competitive market model is defined by:
\[
\Pi = TR - \omega . N - \rho . K
\]
where \( TR \) is the total revenue (or total sales) of the firm. The firm’s costs are represented by the wage bill (the wage rate, \( \omega \), times the workforce, \( N \), of the firm) and the cost of capital (the rental cost of capital, \( \rho \), multiplied by the capital stock of the firm, \( K \)). According to Sargent (1987) the „rental” or „user” cost of capital is equal to the interest rate on government bonds plus the depreciation rate minus the expected rate of increase in the price of new capital goods.

Three indicators, namely: Net Interest Margin (NIM), Return on Assets (ROA) and Return on Equity (ROE) were identified by Ahmed (2003) to be widely employed in the literature to measure
profitability. However, there are divergent views among scholars on the superiority of one indicator over the others as a good measure of profitability.

The traditional accounting based measures are simple proxies of banks’ profitability, obtainable from public disclosed information. Prior academic research propose different accounting based measures for banks’ profitability, e.g. the return on equity (ROE) (Goddard et al. 2004) and return on assets (ROA) (Athanasoglou et al. 2008) either by using average values in the denominator (Pasiouras and Kosmidou 2007 and Dietrich & Wanzenried 2011). Among others, Demirgüç-Kunt & Huizinga (1999) uses the net interest margin (NIM) as proxy for banks’ profitability. The usage of the mentioned proxies of banks’ profitability is to some extent controversial because the measures have some drawbacks, examined below.

Following Golin’s study, as cited in Pasiouras & Kosmidou (2007) return on assets or return on average assets (ROAA), is the key ratio and most common measure of banks’ profitability in today’s banking literature. ROA is an indicator of efficiency and operational performance by presenting the return on each euro of invested assets (Pasiouras & Kosmidou 2007). Nevertheless, ROA has a major drawback since it is distorted by banks’ off balance sheet (OBS) activities. Returns generated by OBS activities are incorporated in banks’ net income while the accompanying assets of OBS are not incorporated into banks’ assets, reflected by the denominator of the ROA ratio. Hence, the ROA ratio is biased upwards due to an exclusion of OBS assets. Empirical research proposes to use the net interest margin, calculated as net interest income divided by total assets, to overcome the OBS bias.

In contrary to ROA, NIM does not include all the profits resulting from off balance sheet activities and other non-core banking activities in the numerator only some interest revenues and expenses relating to OBS activities. Nevertheless, neglecting non-core banking returns is improper since these activities have become increasingly important contributors to banks’ earnings (Goddard et al. 2004).

Furthermore, ROE is also not affected by OBS activities since it only measures the return on owners’ equity. Traditionally, ROE is the most practiced measure of profitability both for the banking sector as for the non-banking sector (European Central Bank 2010). However, the ROE ratio has a major drawback because it disregards financial leverage and the impact of regulation on financial leverage (Athanasoglou et al. 2008) and Dietrich & Wanzenried 2011). Profits generated with debt financing distort the ROE measure since these returns are incorporated in the numerator while the sources of funding are not incorporated in the denominator of the ratio. Banks that rely more on debt financing perform better than banks with a more equity orientated capital structure, ceteris paribus. Hence, according to the European Central Bank (2010) a high ROE may either reflect healthy profitability or reflect low capital adequacy. In this context, the European Central Bank (2010) state that ROE is a useful measure of banks’ profitability during prosperity but appears to be a weak measure of profitability in an environment with substantial higher volatility.

4.5 Independent/explanatory variables
The independent variables are classified into bank-specific, industry-specific and macroeconomic variables. The bank-specific variables are internal factors and controllable for banks’ managers while the industry-specific and macroeconomic variables are uncontrollable and hence external.

5.1 Bank specific factors
These factors are within the scope of the bank to manipulate them and that they differ from bank to bank. These include capital size, size of deposit liabilities, size and composition of credit portfolio, interest rate policy, labour productivity, and state of information technology, risk level, management quality, bank size, ownership and the like.

According to Ommeren (2011) the bank-specific variables are selected by using some key drivers of profitability. These drivers are; earnings, efficiency, risk taking and leverage. Profitability is driven by
the ability of a bank in generating sufficient earnings or in lowering operational cost, implying being more efficient. Furthermore, due to the special nature of banks, risk taking and leverage are also very important drivers for profitability. Theoretical academic literature suggests that there is a risk-return tradeoff, higher risks is associated with higher profits. Risk taking could relate to the quality of assets, liquidity of assets and to the capital structure of a bank. Moreover, leverage will likely increase profitability in prosperity but conversely, decrease profitability in times of depression relatively to less leveraged. Proxies for the leverage effect are mainly related to the overall capital structure but also relates to differences in debt structures. In addition he suggested: Funding, Credit risk, Liquidity risk, Business model, efficiency and costs and Growth of a bank as bank specific factors. Ongore & Kusa (2013) used in their study; Capital Adequacy, Asset Quality, Management Efficiency, Liquidity and Management as bank specific factors. All the bank specific factors are known as CAMELS (capital adequacy, asset quality, management efficiency, earnings, liquidity management and sensitivity to risk. Risk factor is added recently.

4.5.2 Industry specific factors
These Includes the bank size and ownership variables (ownership, Concentration and Size) because those variables are to some extent external. Managers cannot change the variables immediately and they stand in relation to the characteristics of the banks’ counterparts (Ommeren 2011).

4.5.3 Macroeconomic Factors
The macroeconomic policy stability, Gross Domestic Product, Inflation, Interest Rate and Political instability are also other macroeconomic variables that affect the performances of banks. In addition, Real GDP growth (in %) Effective tax rate, Term structure of interest rates is also part of macroeconomic factors.

In sum most of the aforementioned three factors are used by different scholars as the potential internal and external factors affecting the banks’ profitability.

4.5.4 Ownership Identity and Financial Performance
According to Ongore & Kusa (2013) the study of the relationship between ownership and performance is one of the key issues in corporate governance which has been the subject of ongoing debate in the corporate finance literature. The relationship between firm performance and ownership identity, if any, emanate from Agency Theory. This theory deals with owners and manager’s relationship, which one way or the other refers to ownership and performance. Ownership identity shows the behaviour and interests of the owners In relation to performance hence the identity of ownership matters more than the concentration of ownership. Ongore (2011) argues the decisions of managers in the day-to-day affairs of firms are greatly influenced by the risk-taking behaviour and investment orientation of shareholders and he also defines the concept of ownership along two lines of thinking as ownership concentration and ownership mix. The concentration refers to proportion of shares held (largest shareholding) in the firm by few shareholders and the later defines the identity of the shareholders. Two possible consequences ownership concentration has been explained by Wen (2010) in such a way that the dominant shareholders have the power and incentive to closely monitor the performances of the management and this in turn has two further consequences in relation to firm performance; on the one hand close monitoring of the management can reduce agency cost and enhance firm performance and on the other hand concentrated ownership can create a problem in relation to overlooking the right of the minority and also affect the innovativeness of the management.

In sum, as per the discussion of the different literatures above the conceptual frame work that shows the relationship between the dependent, independent and moderating variables has shown in the following figure.
Figure 1: Schematic Diagram showing the relationship between dependent and independent variables

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<tr>
<th>Independent variables (most common once)</th>
<th>Dependent variable</th>
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<td>• Capital adequacy</td>
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<td>• Efficiency and cost… etc</td>
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<td><strong>Industry specific:</strong></td>
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<td>• Ownership</td>
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<td>• Concentration</td>
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<td>• Size</td>
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<td><strong>Macroeconomic Factors:</strong></td>
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4.6.1 Ordinary Least Squares

Prior academic literature, as mentioned in the literature review, examines determinants of banks’ profitability using different panel data modeling techniques. Among others, Pasiouras & Kosmidou (2007) use a pooled ordinary least squares (OLS) technique in which differences between the observations and estimations are minimized in terms of sum of squares. However, the characteristics of the model and proposed variables in equation likely violate the classical assumptions underlying the OLS model. First, among other assumptions of OLS to give unbiased, consistent and efficient estimates, it is a prerequisite that the data follows a normal distribution with unknown mean and variance and that the kurtosis of the distribution equals three. In finance, the distribution of the data is often heavy-tailed and skewed with numerous large outliers, which violate the assumptions of OLS. Second, OLS assumes that the explanatory variables are exogenous (uncorrelated with the error item) and homoskedastic. However, these prerequisites do not necessarily hold for the model proposed in equation; namely, academic research points out that some independent variables could suffer from endogeneity. Fictitiously

4.6.2 Generalized methods of moments (GMM)

Recent academic research towards profitability in the banking sector uses generalized method of moments (GMM) techniques to overcome the above mentioned problems of pooled ordinary least squares techniques. In contrary to OLS, GMM techniques do not make assumptions surrounding the distribution of the data (i.e. normality or skewness). In this context, the potential non-normal distribution of the variables does not affect the results. Moreover, GMM techniques overcome the problem of endogeneity of variables and serial correlation with the disturbance term (Pasiouras & Kosmidou 2007 as cited in Ommeren 2011) Equation is;
(i) \( \pi_{it} = \alpha + \partial \pi_{i,t-1} + \sum_{j=1}^{J} \beta_j X_{ij}^l + \sum_{l=1}^{L} \beta_{l,j} X_{lt}^l + \sum_{k=1}^{M} \beta_{m,k} X_{mt}^m + u_{it}, \quad u_{it} = \mu_i + \nu_{it} \)

Where the dependent variable \( (\pi_{it}) \) measures profitability, estimated by ROA or ROE, for bank \( i \) at time \( t \), with \( i = 1, \ldots, N \) and \( t = 1, \ldots, T \). \( N \) denotes the number of cross-sectional observations and \( T \) the length of the sample period. The models further consist of a constant term, measured by the scalar \( \alpha \), and of a vector of \( k \times 1 \) slope parameters \( \beta \) that estimate the sign of the explanatory variables. The explanatory variables are divided into \( 1 \times k \) vectors of bank-specific \( (X_{ij}^l) \), industry-specific \( (X_{lt}^l) \) and macroeconomic variables \( (X_{mt}^m) \), where \( k \) refers to the number of slope parameters for the different variables classes. Finally, the model includes a one-way error disturbance term \( u_{it} \) capturing a bank-specific or fixed effect \( (\mu_i) \) and a remainder or idiosyncratic effect that vary over time and between banks \( (\nu_{it}) \) banks’ profitability tend to persist over time. Therefore the econometric model includes a one-period lagged dependent variable \( (\pi_{i,t-1}) \) of bank \( i \) at time \( t \); hence, a dynamic model is used. The coefficient \( (\partial) \) of the one-period lagged dependent variable measures the adjustment speed of banks’ profitability to equilibrium. A value of delta between 0 and 1 implies that profits will eventually return to their equilibrium but some degree of profit persistence exists.

**Table 1: Selection some of the determinants of profitability and used data source in different articles:**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Description</th>
<th>Expected signs</th>
<th>Data source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent variable: banks’ profitability ROAA</td>
<td>Return on average assets, net income divided by average asset</td>
<td></td>
<td>Literature</td>
</tr>
<tr>
<td><strong>Bank-specific variables</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equity to total asset in %</td>
<td>This ratio is a measure of the capital adequacy and financial leverage.</td>
<td>+/-</td>
<td>Literature</td>
</tr>
<tr>
<td>Customer deposit to total funding (excluding derivatives) in %</td>
<td>The ratio of deposits to total funding (excluding derivatives) is a measure of the funding structure.</td>
<td>+</td>
<td>Literature</td>
</tr>
<tr>
<td>Loan loss provision to net income revenue in %</td>
<td>The quality of the asset portfolio is a proxy for credit risk, measured by loan loss provision to net interest rev.</td>
<td>-</td>
<td>Literature</td>
</tr>
<tr>
<td>Liquid assets to customer deposits and short term funding in %</td>
<td>Liquidity risk is measured by dividing liquid assets to liquid liabilities.</td>
<td>-</td>
<td>Literature</td>
</tr>
<tr>
<td>Interest expense on customer deposits to total average customer deposits in %</td>
<td>Interest expense on customer deposits is a proxy for the funding costs of a bank.</td>
<td>-</td>
<td>Literature</td>
</tr>
<tr>
<td>Non-interest income to gross revenue in %</td>
<td>This ratio is a proxy for the business model of bank in measuring non-interest income (e.g. fees).</td>
<td>+</td>
<td>Literature</td>
</tr>
<tr>
<td>Cost-to-income ratio in %</td>
<td>Cost-to-income ratio is a proxy for the operational efficiency of a bank.</td>
<td>-</td>
<td>Literature</td>
</tr>
<tr>
<td>Growth of loans to customers in %</td>
<td>Growth of loans to customers is a proxy for the growth of a bank and its business.</td>
<td>+</td>
<td>Literature</td>
</tr>
</tbody>
</table>
5. Review of empirical literature

A study by Paolo (2011) examines the determinants of the profitability of the US banks during the period 1995-2007. The empirical analysis combines bank specific (endogenous) and macroeconomic (exogenous) variables through the GMM system estimator. The empirical findings document a negative link between the capital ratio and the profitability, which supports the notion that banks are operating over-cautiously and ignoring potentially profitable trading opportunities. Additionally, they point to a non-monotonic relationship between the capital ratio and profitability, supporting the efficiency-risk and franchise-value hypotheses. The analysis also records that economies of scale do not occur if one takes into consideration the size of the bank. According to Paolo (2011) Apart from examining the determinants of banks’ profitability, potential impacts of the financial crisis are considered using an unbalanced panel of 354 banks between 2000 and 2009, shows that profit persistence still exists in the European banking sector. Besides, findings using generalized method of moments (GMM) suggest that the equity-to-asset ratio is positively related to banks’ profitability supporting the bankruptcy cost hypothesis or signaling hypothesis. There is no evidence found that the funding- and liquidity structure are determinants for profitability, both proxies appears to be insignificant. Besides, little evidence is found for the agency theory.

Furthermore, Fadzlan (2012) studies Determinants of bank profitability in developing economies South Asian banking sectors. He examined the performance of 77 Bangladeshi, Sri Lankan, and Pakistani commercial banks between 1997 and 2008, using OLS multiple regression. The empirical findings suggest that bank specific characteristics – in particular, liquidity, non-interest income, credit risk, and capitalization – have positive and significant impacts on bank performance, while cost is negatively related to bank profitability. As for the impact of macroeconomic indicators, the results suggest that economic growth has positive and significant impact, while inflation has no significant impact on bank profitability. During the period under study, the empirical findings indicate that private investment is positively related to bank profitability, while private consumption expenditure exhibits negative impact. However, the impact is not uniform across the countries studied.

Riaz (2013) were studied All 32 commercial banks in Pakistan using regression the results show that there is a significant impact of bank specific variables( asset size, total deposits to total assets, credit risk )and macroeconomic indicator (interest rate) on ROE and credit risk and interest rate have also a significant impact on ROA.

Kanwal & Nadeem (2013) investigates the impact of macroeconomic variables on profitability of public limited commercial banks in Pakistan for years 2001- 2011 using Pooled Ordinary Least Square
(POLS) method. The empirical findings indicate a strong positive relationship of real interest rate with ROA, ROE and EM. Secondly, real GDP is found to have an insignificant positive effect on ROA, but an insignificant negative impact on ROE and EM. Inflation rate on the other hand, has a negative link with all 3 profitability measures. Overall, the selected macroeconomic factors are found to have a negligible impact on earnings of commercial banks.

A sample of 389 banks in 41 SSA countries used to study the determinants of bank profitability; Valentina, Calvin& Liliana (2009) find that apart from credit risk, higher returns on assets are associated with larger bank size, activity diversification, and private ownership. Bank returns are affected by macroeconomic variables, suggesting that macroeconomic policies that promote low inflation and stable output growth do boost credit expansion. The results also indicate moderate persistence in profitability. Causation in the Granger sense from returns on assets to capital occurs with a considerable lag, implying that high returns are not immediately retained in the form of equity increases. In addition, Using unbalanced panel of 216 commercial banks drawn from 42 countries in SSA for the period 1999 to 2006; Francis (2013), and Using the cost efficiency model, bank profitability was estimated using panel random effects method in static framework. The explanatory variables are growth in bank assets, growth in bank deposits, capital adequacy, operational efficiency (inefficiency), and liquidity ratio as well as the macroeconomic variables of growth in GDP and inflation. The findings clearly show that both bank-specific as well as macroeconomic factors explain the variation in commercial bank profitability over the study period.

Empirical findings provide evidence that profitability of SSA commercials banks is influenced by bank-specific factors that have a direct relationship with bank management and macroeconomic factors that are not the direct result of a bank managerial decision. These findings call for a number of policy interventions in SSA; given the low poor performance in terms of profitability. Low profitability levels reflected lack of competitiveness and inefficiency in the SSA banking sector.

Ayanda, Christopher & Mudashiru, (2013) studied the determinants of profitability in Nigerian banking industry and revealed that contrary to views of some authors, Bank Size (Natural Logarithm of Total Asset and Number of Branches) and Cost Efficiency did not significantly determine bank profitability in Nigeria. However, Credit Risk (Loan Loss Provision-Total Assets) and Capital Adequacy (Equity-Total Assets) was found to be significant drivers which affected bank profitability both in the long run and short run respectively. Also, while Liquidity affected bank profitability in the short run, Labour efficiency (Human Capital ROI and Staff Salaries-Total Assets) only affected bank profitability in the long run. But as for the external or macroeconomic variables which determined bank profitability, only Broad Money Supply growth rate was found to be a significant driver both in the long run and in the short run. In addition, the study by Kiganda (2014) employed OLS to establish the relationship between macroeconomic factors and bank profitability. The results indicated that macroeconomic factors (real GDP, inflation and exchange rate) have insignificant effect on bank profitability in Kenya with Equity bank in focus at 5% level of significance and they concluded that macroeconomic factors do not affect bank profitability in Kenya. In view of this, it is clear that internal factors which relate to bank management significantly determine bank profitability in Kenya.

Using linear multiple regression model and Generalized Least Square on panel data; Ongore & Kusa (2013); to estimate the parameters showed that bank specific factors significantly affect the performance of commercial banks in Kenya, except for liquidity variable. But the overall effect of macroeconomic variables was inconclusive at 5% significance level. The moderating role of ownership identity on the financial performance of commercial banks was insignificant.

Based on balanced panel data of eight larger commercial banks; Agama (2014), over the period of 2000 to 2009, investigated the determinants of commercial banks profitability in Ethiopia. Return on average assets (ROAA) were used for measurement of profitability. The random effect estimator utilized provides evidence that the profitability of Ethiopian commercial banks is affected by both
bank-specific and macroeconomic factors. Banks’ asset composition, operational efficiency, market share and country’s economic growth has significant positive contribution on their profitability; while asset quality and real market interest rate has statistically significant negative impact. The macroeconomic variables, country’s economic growth and real interest rate, have statistically significant positive and negative impact on bank’s profitability respectively. Moreover, there is no evidence found in support of difference in profitability of state owned and private owned commercial banks in Ethiopia.

Kapur & Gualu (2011) investigates the impact of macroeconomic factors, financial system, banking sector variables and bank-specific characteristics on Ethiopian commercial banks’ profits measured using return on assets (ROA) measure of profit during the period of 2001 to 2008. The random effect panel data regression result shows that the capital strength, bank intermediation and size measures have a positive and dominant influence on their profitability. The other significant factors being efficiency in expense management measured by overhead has negative and significant on profit measures. They conclude that overhead, capital strength, bank intermediation and size measures are important determinants of bank profits in Ethiopia. In addition Lelissa (2014) investigates the determinants of Ethiopian banks performance considering bank specific and external variables on selected banks’ profitability for the 1990-2012 periods. The empirical investigation uses the accounting measure Return on Assets (ROA) to represent Banks’ performance. The study finds that bank specific variables by large explain the variation in profitability. High performance is related to the ability of banks to control their credit risk, diversify their income sources by incorporating non-traditional banking services and control their overhead expenses. In addition, the paper finds that bank’s capital and liquidity status are not significant to affect the performance of banks. On the other hand, the paper finds that bank size and macro-economic variables such real GDP growth rates have no significant impact on banks’ profitability. However, the inflation rate is determined to be significant driver to the performance of the Ethiopian commercial banks.

6. Summary and knowledge gap reflections
Theoretical and empirical research has shown that a sound and effective financial system is critical for economic development and growth. The financial system, however, is also subject to boom and bust cycles and fragility, with negative consequences for the real economy. Financial intermediaries and financial markets channel funds from those who have savings to those who have more productive uses for them. They perform two main types of financial service that reduce the costs of moving funds between borrowers and lenders, leading to a more efficient allocation of resources and faster economic growth. Ethiopia’s financial sector remains closed and are much less developed than its neighbours, no capital market and very limited informal investing in shares of private companies; large state-owned banks continue to dominate the market in terms of capital, deposits and assets. To the best of my knowledge the Ethiopian banking industry is not well studied, little studies has been made by finger count scholars on the determinants of banks’ profitability in Ethiopia and arrive at divergent results. In addition, most of the previous scholars used the quantitative approach in their methodology but nowadays it is advisable to use mixed approach to alleviate the deficiency of either quantitative or qualitative philosophies (Creswell, 2009)

On the other hand, most of the scholars used the traditional accounting measures for analysis towards determinants of banks’ profitability; ROA, ROAA, ROE&ROAE, using multiple linear regression model, OLS. Economic measures of profitability are not used due to the lack of data and because the disclosed parameters are subject to internal policies and assessments which cannot be generalized or validated. Among other assumptions of OLS to give unbiased, consistent and efficient estimates, it is a prerequisite that the data follows a normal distribution with unknown mean and variance and that the kurtosis of the distribution equals three. In finance, the distribution of the data is often heavy-tailed and skewed with numerous large outliers, which violate the assumptions of OLS. Second, OLS assumes that the explanatory variables are exogenous (uncorrelated with the error item) and homoskedastic.
However, academic research points out that some independent variables could suffer from endogeneity. For instance, Berger (1995) questions whether the equity-to-asset ratio influences banks’ profitability or vice versa. Besides the equity-to-asset ratio, incorporating profit persistence into an econometric model, proposed by research of Goddard et al. (2004) will incorporate a source of endogeneity. Autocorrelation and endogeneity will give biased and inconsistent coefficients in a pooled OLS regression. Nowadays academic researchers are better of applying the GMM to alleviate the very nature, persistency, of financial data and the assumptions of OLS. In sum, further research is required to compromise the limitations of the linear regression model OLS, quantitative approach; to incorporate some additional variables in line with the secondary data, as primary information. On top of that most scholars on this area did not consider some most important factor; Ownership Identity, and the risk factor recently added in the CAMEL model as S, now it is CAMELS. It was also observed in the literature that some researchers consider ownership identity as moderating variable and some as industry specific factor (external) independent variable. Thus, the need of further research in the area, especially in Ethiopia, to examine the determinants factors of banks’ profitability as a comprehensive model is not questionable.

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