

# The Determinants of Ethiopian Commercial Banks Performance

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## ABSTRACT

This paper 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

**Keywords:** Determinant, Bank, Performance, Ethiopia

## INTRODUCTION

Banks play a vital role in economic development through engaging themselves in an intermediary role which enhances investment and growth. Bashir 2007, observe that commercial banks contribute positively to economic growth by channeling surplus funds to their most productive uses. The literature not only showed the greater function of banks in the economy but also stressed that without the existence of a sound and efficient banking system, the economy can't function well. When a bank fails, the whole of a nation's payment system is thrown in to jeopardy (Ikhide, 2000). On the other front, studies also shown that bank performance also is influenced by the business cycle or economic performance (Dermerguc-Kunt, A. and Huizinga, H., 2001). Both ways of arguments justify the close link of banks and the economy which instigates the need to understand the determinants of bank performance from both the Bank and the aggregate economy wide perspectives. Thus, financial performance analysis of commercial banks has been of great interest to academic research.

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

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

Recent data also testifies that mostly, the banking sector has experienced a trend of growing profitability alongside positive trends related to balance sheet expansion (NBE Report 2011/12). However, the contributing factors, whether internal or external, to the greatest profitability earned by the industry was not well analyzed. It is important therefore, to understand if the banking sector profitability is being driven by factors related to the bank or are from external sources or both. This raises some important issues: To what extent endogenous factors impact the performance of banks? Do external factors impact the financial performance of commercial banks in Ethiopia? This will be helpful to identify the reason for the success of some commercial banks among the group and helps to identify the determinants for better performance of the Ethiopian banks.

This study, hence basically intends to systematically identify and measure both internal and external factors that impact the performance of the Ethiopian banking sector using data from 1990-2012. The study has different perspectives than the usually observed performance measures applied in most studies done in Ethiopia and other countries. The gaps in literature this study tried to incorporate include:

- Most of the research works were not following the regulatory standards to identify the various internal factors that determine the performance of banks. The frameworks used to identify internal determinants sometimes vary with the regulatory rating standards. Also the financial ratios to be used for measuring performance are not in line with the regulatory organ. For instance the loan to deposit ratio which is

used as the measure of liquidity in many literature is not similar with liquid asset to deposit ratio standard set by the regulatory organ.

- The research works done in Ethiopia and other countries do not incorporated the impact of the foreign currency position or the fx rate variation in the performance of banks. Unlike other countries the Ethiopian banks earn significant sum of income from their international banking activities which totally relies on the currency level, the fx rate variation, currency position and the currency management practice of the banks.
- Some of the research works in Ethiopia has considered variation in interest rate to affect the performance of banks. However in the Ethiopian context the minimum deposit rate on saving and fixed time deposit is set by the regulatory organ. Hence, banks only have discretion to set their lending interest rate which usually done in a way to keep the interest spread constant. Hence, the constant interest spread can justify the neutral effect of change in interest rate on the performance of banks. Hence, this study paper excludes the investigation of the effect of change in interest rate on the performance of banks.

The rest of the report describes the result of the review of various literatures related to determinants of Bank performance. Also, the methodology and the model that is intended to be utilized in the study will be reviewed. This is followed by a discussion on the empirical result. Finally, the report concludes by pointing out the major conclusions and recommendations of the study.

## LITERATURE REVIEW

### MEASURES OF BANK PERFORMANCE

In many of the literature reviewed its explained that bank performance is represented mainly by quantifiable financial indicators. The literature on the determinants of bank performance has closely tied bank performance with profitability measures such as ROA, ROC and NIM. Smirlock (1985), Civelec and Al-Almi (1991), Agu (1992) and Chirwa (2001). Gilbert (1984) in a survey of literatures argued that bank profit is an appropriate measure of bank performance and criticize average interest rate and average service charge rates as poor measures of bank performance.

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

### DETERMINANTS OF BANK PERFORMANCE

In most of the literatures, there are two way and sometimes three ways of classifying the determinants of bank performance. Al-Tamimi, 2010; Aburime, 2005, for instance classified the determinant factors in to two: bank specific (internal) and macroeconomic variables. The internal factors are individual bank characteristics which affect the bank's performance. These factors are basically influenced by the internal decisions of management and board. The external factors are sector wide or country wide factors which are beyond the control of the company and affect the profitability of banks.

Other studies, Ongore, 2011, attempted to integrate sector specific factors like bank ownership bank size and concentration as a specific determinant of bank performance. This approach seems to segregate the external factor determinants in to sector specific and macroeconomic variable. However, some authors, (Chantapong, 2005; Olweny and Shiphoo, 2011) focused on sector specific variables with total neglectation of the macroeconomic variables like GDP and inflation. In general the two approaches seem similar in context and wide variation is not observed in classifying the determinants of bank performance and most of the researchers used both internal and external variables in their studies.

### THE INTERNAL DETERMINANTS

Internal determinants of bank performance can be defined as factors that are influenced by a bank's management decisions. More precisely, the internal factors are bank specific variables which influence the profitability of specific bank,( Al-Tamimi, 2010; Aburime, 2005). Even if there is variation in the number of determinant factors pointed out by the number of studies, the variables can be summarized using the CAMEL framework to proxy the bank specific factors as done in the study of Dang, 2011. CAMEL stands for Capital Adequacy, Asset Quality, Management Efficiency, Earnings ability and Liquidity. Each of these indicators is described below:

#### Capital Adequacy

The NBE has set specific measure of the capital adequacy position of Banks, which is the ratio the Capital

Adequacy Ratio (CAR) (Directive No. SBB/9/95). The directive clearly set out the computation mechanism and the conversion factors for both on and off-balance sheet items and strictly set for all banks not to maintain their capital level below 8% of their risk weighted assets. Regardless of such regulatory framework, the major intention of holding capital is to build the internal strength of the bank to withstand losses during crisis (Dang (2011). However some authors argue that capital also affects performance via creating liquidity, hence banks with strong capital position are able to reduce their financing costs, for example by paying low interest rates on their debt( Diamond, 2000). However, holding high capital level is not without drawbacks: a higher CAR ratio reduces the ROE due to two mechanisms: A high ratio indicates a lower risk, and the theory of markets to balance advocating a strong relationship at risk and profitability would lead us to infer a lower profitability.

#### **Asset Quality**

The asset side of a Bank's balance sheet is another bank specific variable that affects the profitability of a bank. Even if the total package of the Bank's asset consist of various asset components such as cash, deposit with banks including reserves at the NBE, loans, investments, fixed assets etc, there seems an agreement to focus on the quality of the loan portfolio. This seems due to the large size of loans in the Banks balance sheet which mainly emanated from the inherited intermediation activity of banks. In addition, more often bank loan of a bank is the major asset that generates the major share of the banks income. Hence the quality of loan portfolio determines the profitability of banks. The highest risk facing a bank is the losses derived from delinquent loans and its highly affects the performance of Banks (Dang, 2011). Liu and Wilson (2010) find that a deterioration of the credit quality reduces the ROA and ROE.

#### **Management Efficiency**

Management Efficiency is one of the key internal factors that determine the bank profitability but appears to be one of the complexes subject to capture with financial ratios (Ongore 2013). However, different authors try to use financial ratios of the financial statements to act as a proxy for management efficiency. One of these ratios used to measure management quality is operating profit to income ratio (Rahman et al. 2009; Sangmi and Nazir, 2010). However, some used the ratio of costs to total assets (Nassreddine, 2013). In whatever way the argument goes measuring the management efficiency requires to get deep into evaluation of the management systems, organizational discipline, control systems, quality of staff, and others. In the Ethiopian context the regulatory organ considers all the aforesaid variables. Hence, a single quantitative measure of the management performance is not set.

#### **Liquidity**

Liquidity indicates the ability of the bank to meet its financial obligations in a timely and effective manner. There are variations among scholars with regard to the measurement ratios. The most common financial ratios that reflect the liquidity position of a bank according to Samad (2004) are customer deposit to total asset and total loan to customer deposits. Other scholars use different financial ratio to measure liquidity. For instance Ilhomovich (2009) used cash to deposit ratio to measure the liquidity level of banks in Malaysia.

In the Ethiopian context there seems clear measure of the liquidity: the liquid asset to deposit ratio, which the National Bank of Ethiopia, has set the minimum liquid asset of the Bank not to be less that 15% of the Bank's net current liability. Out of this the directive obliged banks to hold 5% of them in primary reserve assets (see directive no SBB 55/2013).

### **EXTERNAL DETERMINANTS OF BANK PERFORMANCE**

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

### **SECTOR SPECIFIC**

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

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

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

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

a high market share and, as a consequence, the market becomes more concentrated, Smirlock (1985).

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

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

### **Bank Size**

Bank size as measured by total deposits (Civelic and Al-Alami (1991) or assets (Smirlock (1985) is one of the control variables used in analyzing performance of the bank system. This is included to control for the possibility that large banks are likely to have greater product and loan diversification. The impact of bank size on profitability is uncertain a priori for the fact that on the one hand, increased diversification implies less risk and hence a lower required return, and on the other hand, bank size takes into account differences brought about by size such as economies of scale. For large firms their size permits them to bargain more effectively, administer prices and in the end realize significant higher prices for the particular product, Agu (1992).

## **MACRO-ECONOMIC RELATED**

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

### **Economic Growth**

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

### **Inflation**

The effect of inflation is also another important determinant of banking performance. In general, high inflation rates are associated with high loan interest rates and thus high income. Perry (1992), however, asserts that the effect of inflation on banking performance depends on whether inflation is anticipated or unanticipated.

Athanasoglou et al., 2005, state in relation to the Greek situation that the relationship between inflation level and banks profitability is remained to be debatable. The direction of the relationship is not clear (Vong and Chan, 2009).

## **METHODOLOGY**

### **Data Analysis and Model Specification**

The study fundamentally involves both descriptive and econometrics techniques. The econometrics method used in the study basically involves assessing the impact of selected internal and external variables on the performance of the banking sector. Basic descriptive statistics will be applied for trend analysis and to identify outliers.

### **Data Source**

The study uses data from secondary sources for selected banks in the industry. The major data sources are the various annual publications of the NBE and each commercial bank. The coverage of the data is intended to be from 1990 to 2012. The selection of the year 1990 as a starting point is being the time when the financial liberalization measures were gradually commenced to be introduced by the government.

### **Sampling or Selection of Banks**

The Bank selection is done following the historical formation time of banks and in fact with consideration of their ownership structure and asset size.

### **Ownership structure**

In the Ethiopian banking industry there exists only two form of bank ownership: either banks that are fully owned by the government or fully owned by the private sector (businesses and individuals). No hybrid form of the two forms of ownership or the involvement of foreign ownership exists following the ban of foreign participation in the financial sector. Based on such classification there are three government owned banks of which two of them are established for commercial purpose. The remaining bank, the Development Bank of Ethiopia (DBE), is established for development motives. Therefore, DBE is excluded in the study as the basic intention of the study is to explore the determinant factors affecting the commercial banks only.

### **Historical Formation (Years of Existence in the Market)**

In terms of years of existence in the industry, three kind of distributions are prevalent in the current banking structure of the country:

- a) Peer 1-long stayed commercial banks- these are commercial banks operating for long periods and even

- before the financial sector reform measures in the industry are introduced. Banks in such group are the two government owned banks, CBE and CBB. Their stay in the industry exceeds 40 years.
- b) Peer 2-Banks established instantly following the liberalization measure- banks under this group are those that emerged after the reform measure mainly of following the reform that allowed the participation of the private sector in the banking industry. These banks years of existence ranges from 15 to 20 years.
  - c) Peer 3-Small sized banks operating for less than a decade in the industry- These are small banks which stayed in the sector for short period.

**Asset size (Market share)**

As of year 2012, the asset size of the government owned banks shared 68% of the industry which on average is Birr 82 billion. The banks in peer two group together held 23% market share with average asset size of Birr9 billion. The small sized banks were having asset size less than 5 billion taking the remaining market share with average asset size of Birr 3 billion.

Hence, based on the above classification banks that stayed in the industry for more than a decade and whose asset size exceeds Birr 5 billion are considered for the study. The selection of these banks will be appropriate in the generalization of the final result. Therefore the study considers two long stayed government owned banks (CBE and CBB) and six private banks (Awash, Dashen, Abyssinia, Wegagen, NIB and United). A total of eight banks out of the 16 commercial banks in Ethiopia are considered for the research. This will represent 91% in terms of market share and 50% in number.

**REGRESSION ANALYSIS**

The models estimated in the regression model is a combination of both bank specific ( internal) variables carefully segregated to represent the CAMEL framework and the measure used by the regulatory organ and external variables related to the industry and macroeconomic environment. The bank specific variables used are:

- The Capital to Asset ratio (CAR)- which represent a measure of the capital adequacy position of Banks or the Capital level in the CAMEL component.
- The Provision to Loans (PRTL) and share of Service Charge from the gross income (SCTI) of banks- which both measure the quality and earning power of the major earning asset components of the Balance sheet of banks. These assets are loans and foreign deposit of banks. The two variables represent the asset quality part of the CAMEL component.
- The non-interest expense to gross expense (NITE)- which is used to estimate the Management’s control over expenses. This represents the Management part of the CAMEL component.
- The liquid assets to deposit ratio (LADP)- which is a measure used by the regulatory organ to assess the liquidity level of Banks. This represents the Liquidity part of the CAMEL component.

In addition external variables: natural logarithm of asset (LOGTA), the real GDP growth rate (RGDP) and the inflation rate (INF) are used in the model.

The dependent Variable is based on the usually used profitability measure, the Return on Asset (RoA). This is following the argument of Smirlock (1985),Civelec and Al-Alami (1991), Agu (1992) and Chirwa (2001).

**MODEL SPECIFICATION**

A multiple linear regression model will be used to test the relationship between bank profitability and the internal and external determinants. The linear equation relating performance measures to the independent variables is as shown below:

$$Per_{jt} = f (BS_{jt} + SS_t + MS_t) \dots\dots\dots(\text{equation 1})$$

Where  $Per_{jt}$  represents performance measure/s for bank j during period t;  $BS_{jt}$  are bank specific determinants for bank j at time t;  $SS_t$  are sector specific external determinants at time t and  $MS_t$  are macro-economic variables at time t.

Hence, the general model to be estimated is of the following linear form:

$$\Pi_{jt} = \beta_j + \sum \beta_k X_{jt}^k + \varepsilon_{jt} \dots\dots\dots (\text{equation 2})$$

Where  $\Pi_{jt}$  is the profitability of bank j at time t, with  $i= 1\dots N$ ;  $t=1\dots T$ ,  $\beta_j$  is a constant term,  $X_{jt}$  are k explanatory variables and  $\varepsilon_{jt}$  is the disturbance.

The explanatory variables are grouped as per equation 1 as bank specific measures, industry specific and macro-economic specific determinants. Hence, substitution of equation 1 in to equation 2 yields the following general specification model:

$$\Pi_{jt} = \beta_j + \sum \beta_k X_{jt}^{BS} + \sum \beta_k X_{jt}^{SS} + \sum \beta_k X_{jt}^{MS} + \varepsilon_{jt} \dots\dots\dots(\text{equation 3})$$

Where the  $x_{jt}$  with superscripts BS, SS and MS represent the bank specific, sector specific and macro-economic specific determinants as stated in equation 1.

More specifically, the econometric model can be expressed in mathematical form incorporating the identified



variables.

$$ROA_t = CAR_t + PRTL_t + SCTI_t + NITE_t + LADP_t + LOGTA_t + RGDP_t + INFL_t + u_t$$

In order to establish which of variables are key drivers of the commercial banks' profitability in the Ethiopian Banking industry, the estimation of the coefficients has been done in three parts.

1. A separate estimation for the endogenous variables;
2. A separate estimation for the exogenous variables; and finally
3. A model comprising of both internal and external variables have been estimated.

The purpose of separately evaluating the endogenous and exogenous components of the model is to identify the variables that remained key drivers of Bank's profitability in Ethiopia. The final result is presented based on the combined model consisting both internal and external variables.

## ANALYSIS AND DISCUSSION OF RESULTS

The study analyzes the impact of the selected variables in the profitability performance of commercial banks in Ethiopia. The variables tested in the study includes: the capital to asset ratio, the provision to loans, service charge to gross income, non-interest expense to total expense, liquid assets to deposit, natural logarithm of bank's asset, the real growth of GDP and inflation. The estimate of the impact of the abovementioned internal and external variables on return to assets of these banks is also done.

### Trends and Descriptive statistics

Before estimating the model, data analysis through trend and descriptive statistics is performed. An outlier is observed graphically showing a sharp decline in the profitability of the commercial banks in the year 2002. The trend reveals that the Commercial Bank has been operating at loss during the stated year due to a relatively higher amount of provision for impaired loans and advances. This has also resulted in the decline in the interest income and increase in non-interest expenses of the bank. The decline in interest income is due to the restriction to recognize income from non-performing loans.

In addition, profitability as measured by net income after tax as a percentage of total assets averaged 1.6 with a standard deviation of 1.11. The most unique observation with regard to profit is the trend in the profitability of CBE almost matches with the profitability level of the industry. In other words, the stake of the private banks in the terms of profit is not considerable following their limited share in both loans and deposit market. Hence, the introduction of new private banks into the banking industry seems does not affected the profitability of the leading bank.

The maximum and mean value of the capital adequacy ratio revealed that the mean CAR (3.6%) seems far lower from the regulatory requirement (8%). Even the maximum value of CAR (8.5%) doesn't much exceed the lower limit set by the statutory organ. Another situation with regard to provision to total loans is the level of provision seems on the high side with mean and maximum value of 10.3% and 20.5 %, respectively. This by large exceeds the 1% provision requirement had all loans were under pass status showing the credit risk level historically had been a major concern of the Ethiopian banking industry.

The other variable the liquid asset to deposit ratio with mean value 60.8 provides indication of the historically excess liquidity status of the Ethiopian Banks. The minimum value of 29.8 revealed that Ethiopian banks don't seem to have problem of meeting the 15% liquidity requirement of the NBE.

### Model Test and Explanatory Power of the Model

The ANOVA table for separate evaluation of the endogenous and exogenous variables as well as for the combined model shows the explanatory variable in the regression model are significant in explaining the drivers of profitability. In all cases, the calculated F value appears larger than the significance value. In other words the calculated significance value stood below 0.05.

- ANOVA for internal variables- the calculated F-value(5.3) is higher than the significance value(0.04).
- ANOVA for external variables- the calculated value (4.3) is larger than the significance value (0.17).
- ANOVA for the combined model- the calculated value(2.9) is larger than the significance value(0.04).

The residual statistics shows the error term has a normal distribution with a mean of 0. The results from Variation Inflation Factor (VIF) suggest that VIF is not greater than 10 for any of the explanatory variables. Hence, irrespective of the significance level of multicollinearity, it appears to be not serious and can be ignored. The variable with high VIF in the table is the logarithm of total asset which is statistically not significantly correlated with the independent variable. The Breusch-Pagan / Cook-Weisberg test for heteroskedasticity shows that at 5% level of significance, the p-value is higher showing that heteroskedasticity is not significant in the model. The Durbin Watson test result has shown that the D-statistic (2.8) appear closer but exceeds 2 depicting negative correlation. As suggested by Field (2009), values less than 1 or greater than 3 are a cause of concern<sup>1</sup>. Hence from Field's rule of thumb it can be inferred that autocorrelation is not serious.

<sup>1</sup> The test statistic can vary between 0 and 4 with a value of 2 indicating that the residuals are uncorrelated. A value greater than 2 indicates a negative correlation and a value less than 2 depict a positive correlation.

The coefficient of determination, the R and the R-square, is relatively high in all models. However, the combined (79%) and the endogenous (78%) models' coefficient of determination by far exceed the coefficient of determination in the exogenous model (64%). Hence, the variable split in to endogenous and exogenous has indicated that bank specific variables are the better determinants of bank's profitability in the Ethiopian context. External factors seem to have limited influence on the performance of commercial banks in Ethiopia. Both the endogenous (49.3%) and the combined model (41.9%) depicted a high explanatory power of each model. The reason for the reduced explanatory power in the exogenous variables is due to the dropped variables, in relation to serial correlation with the existing explanatory variables.

### **Empirical Result**

#### **Internal Determinants**

As shown in the table above among the identified five bank specific determinant factors three of them were significant and considered to be drivers of the banks' profitability in Ethiopian banking industry. These variables are the provision to total loans, share of service charge to total income and the non-interest expense to total expense. The capital adequacy ratio and the loan to deposit ratio were insignificant to explain profitability.

The coefficient of the ratio of provision to total loans (PRTL) variable in the regression model which is an indicator of the level of credit risk has negative effect on profitability. This is in line with the initial a priori assumptions. In addition the variable is significant in explaining the variability in the return on assets of Ethiopian commercial banks. In addition, the finding is supported in the result of many literatures. Dang 2011, Liu and Wilson (2010) also found out that the highest risk facing a bank is losses derived from delinquent loans and it highly affects performance of Banks. Hence, the deterioration in credit quality reduces ROA and ROE.

The ratio of service charge to gross income (SCTI) which mainly is a measure of income from foreign operation and hence the level of income diversification or business mix has a positive impact on profitability. This is in agreement with the a priori restrictions. In addition this variable is statistically significant in explaining the variability in ROA. Thus SCTI is a vital driver of the performance of commercial banks in Ethiopia. Even if literature that can directly single out the impact of income from foreign banking cannot be referred to support this finding, some studies done considering the non-interest income share out of total income or total asset arrived at the conclusion similar to this research finding. However, the result of this study is also contrary to the findings of Nacuer 2003 who analyzed the performance of Tunisian banks and find out that the non-interest bearing assets has no significant impact on net interest margin and return on assets, proving that bank profitability stems mainly from interest bearing assets. In the Ethiopian situation, however, the non-interest bearing assets like foreign deposit and investments in bills remained big contributors to the profitability of banks. The ratio of non interest expense to total expense, which is a proxy measure of management efficiency regarding controllable expenses has significant and negative relationship with profitability. Even if the relationship with profit as stated in the a priori assumptions will be negative, the unpredicted result is that its coefficient is large to affect the profit level of banks. The move of some banks to control expenses through restricting branches, providing e-banking services with the intention of minimizing long-term costs, limiting staff size via limiting branches, controlling staff expenses like education fee, undertaking promotion in cost saving medias etc seems contributing positively to profitability. Some studies also revealed similar fact that a bank that is able to use its resources more effectively can reduce costs which will result in better performance ( Altunbas, Garadener, Molyneux and Moore (2001).

The Capital Adequacy Ratio (CAR) appears to have positive relationship with profitability. As literature is not one sided on the effect of the CAR on profit performance, the a priori restriction was set to consider either of the signs. The result witnessed a positive relation; however, the effect of CAR on profitability appears insignificant. Hence, the CAR is not a significant driver of profitability performance of commercial banks. Hence, regulatory measures that insist on holding a high level of capital seems to strengthen the risk bearing capacity of banks than improving their profit performance. This is revealed in some studies, Brouke (1989), Berger (1995) and Molyneux (1993), whose outcome reveals that the impact of leverage or capitalization on bank profitability is ambiguous, and also that higher levels of equity would decrease the cost of capital, leading to a positive impact on bank profitability. Such way of argument in fact might not be applicable to Ethiopian banks which are with excess liquidity standing and which usually are not using capital to meet their day to day liquidity needs.

The liquid asset to deposit ratio (LADP), which measures the liquidity level of banks, is found to be positively related with profit. Like the CAR, literature witnessed the ambiguity of the impact of liquidity on bank performance. There are studies which found out positive relationship (Dang 2011), negative relationship (Berger and Bowman, 2009) and even no relationship (Said and Tumin, 2011). However, the result of the study revealed positive but insignificant relationship with profitability. This appears in contradiction with Berger and Bouwman (2009) that argued if liquidity reserves are imposed by law will be a burden for banks and this will result in negative relationship. Despite the regulatory requirement for Ethiopian banks to maintain 15% of their deposit in the form of liquid assets, as shown the descriptive statistics, the commercial banks were operating with excess liquidity. The minimum liquidity level historically registered in the industry is 29%, which is in fact is

above the statutory requirement. Hence, from the finding of this study, the positive relationship seems an outcome of excess liquidity which allows banks to diversify their income via engaging themselves in non-traditional banking services like foreign operation and investment. The advantage of this strategy has both income and cost elements: it ensures income diversification is maintained and above all will reduce the provision expense via directing funds to non-credit related activities. The significance of the SCTI and PRTL to affect profitability also supports the above argument.

### **External Determinants**

Among the identified three external determinant factors only one factor (inflation) appear significant to affect performance. The other variables the real GDP growth rate and the bank size measure (Log TA) were insignificant to affect profitability in the Ethiopian banking industry.

The natural log of total assets is found to have negative relationship with bank performance. However, it is statistically insignificant in the model to explain profitability. The impact of bank size on profitability is uncertain a priori for the fact that on the one hand bank size implies increased diversification and hence less risk with low return, on the other hand, bank size ensures economies of scale contributing positively for performance via reducing costs (Agu 1992). The negative relationship is in contrast with the findings of Smirlock 1985, Chirwa 2001 and Civelic and Al-Alami 1991 which claim that large banks in large market take riskier investments resulting higher returns. However, in the Ethiopian context, there appears similarity in the business undertakings of big and small banks cannot be shortly identified. Even the result pointed out that small banks seem to have advantage related to their size in cost control resulting in negative relationship of size with profitability.

The impact of the economic growth (RGDP) rate on bank performance is positive and conforms to the a priori restrictions. However, it appears an insignificant driver of commercial banks performance. The positive relationship also is in line with the result of prior studies ( Athanasoglou 2005, Guru 2002, Bashir 2000. The difference in the result between this and prior studies is that economic growth appears to be statistically insignificant determinant of bank performance. This might not be a surprise as the share of financial intermediation in the GDP is still at very low level. Recent (2012) statistics from MOFED shows that the financial intermediation share in the GDP is only 2.7%. This by large indicates the detachment and limited contribution of the financial sector to the economy of the country.

The annual rate of inflation is found to have positive and significant driver of profitability. This seems a surprising result as banks in Ethiopia does not seem to be affected by the change in real interest rate as the variation in interest rate in both the asset and liability side is constant and usually has fixed nature. Even it varies, they have the discretion to adjust their rate in a way to maintain the spread. Hence, the argument on the effect of inflation on the asset and liability prices cannot be valid. However, the effect of inflation on the debt repayment capacity of the borrowers as well as on banks' ability to mobilize resources from the market which both increases expenses can be a convincing argument for the result. The coefficient of the variable in the model however is not large to explain the firm impact of inflation on profitability. Literature also revealed a confusing result with regard to the effect of inflation on bank performance. Some scholars say that the relationship between inflation and banks profitability is debatable ( Athanasoglo 2005), the direction of relationship is unclear (Vong and Chan 2009) or the effect depends on whether inflation is anticipated or unanticipated (Perry 1992).

### **Conclusions and Recommendations**

The paper investigated the determinants of Ethiopian bank performance considering bank specific and external indicators on banks' profitability for the 1990-2012 periods. 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. Hence, as a matter of policy implications it's recommended that:

**Ethiopian banks need to develop their credit risk management capacity-** the high level of provision held for poorly performing assets mainly loans and advances is affecting the profitability of Banks. Hence, improving performance require to institute a strong credit risk management system that can efficiently identify bankable borrowers and a system that can monitor their performance after the loan is granted. In addition, the regulatory framework should support and make sure banks to have strong credit risk management practice. This can be done though strengthening the internal risk management system to assist the identification, measurement and monitoring of credit risk as well as directing the supervision focus towards credit risk.

**Income diversification should also get focus-** The share of income from foreign operation in the form of service charge is found to be one of key drivers of the performance of Ethiopian Banks. Hence, banks should



divert their attention towards maintaining the proper mix of non-interest bearing assets which can generate fee incomes and their loan exposures. The focus to introduce fee based services which are less exposed to credit risk should be one of the areas that Ethiopian banks need to work for in the future if they need to sustain their profitability performance.

**There should also be control over overhead costs-** the share of overhead costs (non-interest expense) in the total expense appears to be a significant determinant factor of performance. Therefore Banks should engage themselves in cost control activities like introducing technology based banking services and limiting excessive branch expansions which potentially reduce costs via reducing the number of staff to be employed and the branch opening costs. This should however be done without compromising the future growth motives of banks.

**The size of large banks needs to be reduced to optimal levels-** Even if it's insignificant, bank size appears to negatively correlate with profitability. Large banks capacity to provide efficient banking services should be the area that needs to be focused on. In addition, the currently observed aggressive move to open branches should be taken care of so as to reduce the negative impact on their performance due to cost increases.

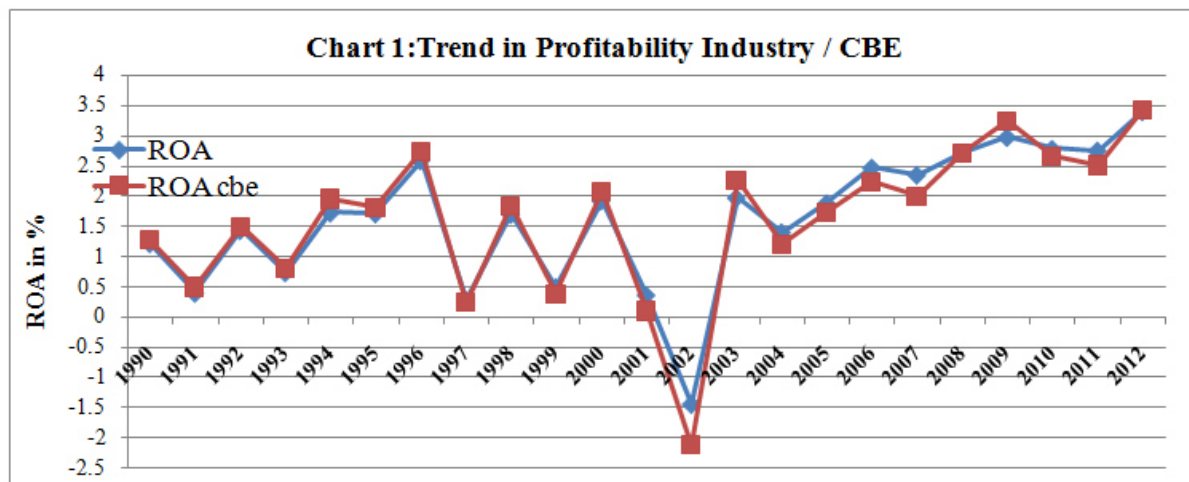
**Ethiopian Banks should consider both internal and macroeconomic variables in their strategy design-** The study finds that the real GDP growth rate which measures the economy growth of Ethiopia has not impacted significantly on the performance of commercial banks. The findings in this direction implies that the commercial banks do not respond to the dynamics of economic growth which can be taken as an indication of ineffective competition and efficiency in the Banking sector. Hence, at national level there is a need to reduce concentration and spur competition. In addition, the inflation rate which appears to be significant to affect performance need to be monitored. In such endeavor the effect of inflation on the debt repayment capacity of borrowers, the saving potential of depositors, and the resource mobilization capacity of Banks need to be focused on.

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Source: Author Compilation from Bank's Financial Statements- analyzed through SPSS

Table 1: Descriptive Statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
ROA	23	-1.400	3.390	1.63565	1.118334
CAR	23	.723	8.510	3.63028	1.999957
PRTL	23	2.425	20.455	10.33845	5.146591
SCTI	23	6.922	27.586	13.68990	5.709601
NITE	23	.415	1.322	.65314	.228614
LADP	23	29.799	86.976	60.81009	16.009027
LOGTA	23	8.107	12.337	10.23073	1.137312
RGDP	23	-4.400	12.400	6.39130	5.316177
INF	23	-7.200	36.400	9.80835	11.183956
Valid N (listwise)	23				

Source: Author Compilation from Bank's Financial Statements- analyzed through SPSS

Table 2: Estimation

ROA	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
CAR	.0373956	.1382501	0.27	0.791	-.2591215	.3339127
PRTL	-.0734085	.0518867	-1.41	0.179	-.1846943	.0378774
SCTI	.0344068	.0490145	0.70	0.494	-.070719	.1395325
NITE	-1.799628	1.177746	-1.53	0.149	-4.325641	.7263856
LADP	.0015092	.0204331	0.07	0.942	-.0423155	.0453339
LOGTA	-.0199881	.3664201	-0.05	0.957	-.8058811	.7659049
RGDP	.0108801	.0450531	0.24	0.813	-.0857492	.1075094
INF	.0204856	.0238496	0.86	0.405	-.0306667	.0716378
cons	2.776839	3.209473	0.87	0.402	-4.106796	9.660473
Durbin-Watson d-statistic ( 9, 23) = 2.87678						
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity						
Ho: Constant variance						
Variables: fitted values of ladp						
chi2(1) = 3.11						
Prob > chi2 = 0.0778						

Source: Author's compilation data processed in STATA 10

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