Financial Performance Analysis of Selected Commercial Banks in Ethiopia

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Abstract

Accounting data are useful in assessing the economic prospects of a firm. The paper shows how financial ratios can be used to explore the sources of a firm's profitability and evaluate the "quality" of its earnings in a systematic fashion. Hence, the aim of the study is to analyze the financial performance of commercial banks in Ethiopia for the period between 2009 and 2012.A sample of the top seven commercial banks was selected based on the value of their total assets at the end of the 2009 financial year. These are the banks that dominate the sector with the top 7 banks controlling 90.4% of the total industry assets which makes them systemically important banks The results of the study indicated that CBE showed the highest level of RoE all the time but this was driven by its high leverage levels. Moreover, all banks were found to be unduly liquid affecting their revenue generating capacity. This is partly because of government imposed loan restriction. Dashen Bank has continuously improved its performance throughout the study period in most of the parameters used to measure its performance. Wegagen Bank had the most stable earnings over time as a result of its policy to use high level of equity financing. For a sustained good banking performance in the country, it is recommended that the banks invest more in interest bearing assets, mainly loans, to fully utilize their revenue generating capacity. The Ethiopian government is also recommended to balance its desire to control inflation with the need to maintain lasting viability of the banking industry.

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1. Introduction

The recent global financial crisis of 2007-2009 has shown the implication of bank performance both in national and international economies and the necessity to monitor it at all times (Tobias and Themba 2011). Certainly, performance means different things to different stakeholders in a bank. For example, depositors are interested in a bank's long-term ability to look after their savings; their interests are safeguarded by supervisory authorities. Equity holders, for their part, focus on profit generation, i.e. on ensuring a future return on their current holding (European Central Bank, 2010).

The European Central Bank report, 2010, defined bank performance as its capacity to generate sustainable profitability. It stated, subsequent to the spectacular losses in the financial crisis and the substantial government intervention, there is little public support for banks returning return on equity (RoE) ratios of well above 20%, as these have mostly proved to be unsustainable (European Central Bank, 2010). The report also specified that the most common measure for a bank's performance, RoE, is only part of the story, as a good level of RoE may either reflect a good level of profitability or more limited equity capital. This may explain why some of the high-RoE firms have performed particularly poorly over the crisis, dragged down by a rapid leverage adjustment. It is understandable that a more comprehensive analysis covering multiple aspects of performance is necessary to assess the overall financial health of banks. Good financial performance of banks is important not only to their shareholders but to the whole economy as it helps the banks to continue their role of financial intermediation effectively and help economic growth of a country, especially in countries where financial markets are not well developed.

The goal of every manager is to build a successful business, but in order to do this a manager needs to know how to measure a company's success. There are multiple methods for measuring business success. In for-profit businesses, the goal of financial management is to make money or add value for the owners. More precisely, the goal of financial management is to maximize the *current* value per share of the existing stock (Ross et al 2003).

Corporations are certainly not the only type of business; and the stock in many corporations rarely changes hands, so it's difficult to say what the value per share is at any given time. Therefore the goal should be stated in a more general way as to maximize the *market value* of the existing owners' equity (Ross et al 2003).

Though this is accepted as an objective, there is a problem of how we actually go about determining the market value of the business. In the best of all worlds the financial manager has full market value information about all of the firm's assets. This will rarely (if ever) happen.

There are also various equity valuation techniques. These techniques take the firm's dividends and earnings prospects as inputs. Although the valuation analyst is interested in economic earnings streams, only financial accounting data is readily available. So the reason we rely on accounting figures for much of our financial information is that, we are almost always unable to obtain all (or even part) of the market information that we want.

The question this study intends to address is, thus, "what can we learn from a company's financial accounting data that can help us gauge how well a company has done in fulfilling its primary objective of shareholder value maximization?"

Although economic earnings are more important for issues of performance measurement of this kind, this study examines evidence suggesting that, whatever their shortcomings, accounting data still are useful in assessing the economic prospects of firms. We see how we can use financial ratios to explore the sources of a firm's profitability and evaluate the "quality" of its earnings in a systematic fashion.

The objective of the study, therefore, is to analyze the financial performance of commercial banks in terms of measures such as profitability, liquidity and riskiness of the earnings to shareholders.

Motivation for taking banks as focus of the study

Bank performance is important because of its effect on the performance of the whole economy. Good performance of banks facilitates economic development by making the saving-investment process more smooth, efficient, and easier to reach. The failure of a single bank, on the other hand, can not only affect its

shareholders and depositors but also the rest of other banks and all other business. This in turn causes major distress on the economy as a whole. Moreover, while several studies on bank performance have been conducted widely for US and European markets and, to lesser extent, for large emerging markets, relatively little is known about bank performance among other developing countries like Ethiopia (Yeh, 1996; Webb, 2003; Lacewell, 2003; Halkos and Salamouris, 2004; Dev and Rao, 2006).

2. Literature Review on Financial Ratio Analysis

2.1 Bank performance: Review of previous empirical studies

The measurement of bank performance particularly commercial banks is well researched and has received increased attention over the past years (Seiford and Zhu, 1999). There have been a large number of empirical studies on commercial bank performance around the world (see Yeh, 1996; Webb, 2003; Lacewell, 2003; Halkos and Salamouris, 2004; Tarawneh, 2006). However, little has been done on bank performance in Ethiopia. However, with the deteriorating health of the banking institutions and the recent surge of bank failures as a result of the current global financial crisis, it is justified that bank performance receives increased investigation from both scholars and industry specialists.

There are two broad approaches used to measure bank performance, the accounting approach, which makes use of financial ratios. Traditionally accounting methods primarily based on the use of financial ratios have been employed for assessing bank performance (Ncube, 2009).

Berger and Humphrey (1997) indicated that, "evaluating the performance of a financial institution can inform government policy by assessing the effects of deregulation, mergers and market structure on efficiency" (p175). Bank regulators screen banks by evaluating banks' liquidity, solvency and overall performance to enable them to intervene when there is need and to gauge the potential for problems (Casu *et al*, 2006). On a micro-level, bank performance measurement can also help improve managerial performance by identifying best and worst practices associated with high and low measured efficiency.

When looking to improve their performance, banks compare the performance of their peers and evaluate the trend of their financial performance over time. Tarawneh (2006) in his study measured the performance of Oman commercial banks using financial ratios and ranked the banks based on their performance. The study utilised Financial Ratio Analysis (FRA) to investigate the impact of asset management, operational efficiency and bank size on the performance of Oman commercial banks. The findings indicated that bank performance was strongly and positively influenced by operational efficiency, asset management and bank size.

In the Gulf, Samad (2004) investigated the performance of seven locally incorporated commercial banks during the period 1994-2001. Financial ratios were used to evaluate the credit quality, profitability, and liquidity performances.

The performance of the seven commercial banks was compared with the banking industry in Bahrain which was considered a benchmark. The article applied a Student's t-test to measure the statistical significance for the measures of performance. The results revealed that commercial banks in Bahrain were relatively less profitable, less liquid and were exposed to higher credit risk than the banking industry, in which wholesale banks are the main component.

2.2 Financial Ratio Analysis

Banking institutions have become increasingly complex, the key drivers of their performance remain earnings, efficiency, risk-taking and leverage. In detail: while it is clear that a bank must be able to generate "earnings", it is also important to take account of the composition and volatility of those earnings. "Efficiency" refers to the bank's ability to generate revenue from a given amount of assets and to make profit from a given source of income. "Risk-taking" is reflected in the necessary adjustments to earnings for the undertaken risks to generate them (e.g. credit-risk cost over the cycle). "Leverage" might improve results in the upswing – in the way it functions as a multiplier – but, conversely, it can also make it more likely for a bank to fail, due to rare, unexpected losses.

There are a multitude of measures used to assess bank performance, with each group of stakeholders having its own focus of interest. Among the large set of performance measures for banks used by academics and practitioners, the following are commonly used ratios.

2.3 Profitability Performance

Performance measures are similar to those applied in other industries, with return on assets (RoA), return on equity (RoE) or cost-to-income ratio being the most widely used.

In addition, given the importance of the intermediation function for banks, net interest margin is typically monitored.

Return on Assets (RoA) (net profit/total assets) shows the ability of management to acquire deposits at a reasonable cost and invest them in profitable investments (Ahmed, 2009). The return on assets (RoA) is the net income for the year divided by total assets, usually the average value over the year. This ratio indicates how much net income is generated per dollar of assets. The higher the ROA, the more profitable the bank is.

Return on Equity (RoE) (net profit/ total equity) RoE is an internal performance measure of shareholder value, and it is by far the most popular measure of performance, since: (i) it proposes a direct assessment of the financial return of a shareholder's investment; (ii) it is easily available for analysts, only relying upon public information; and (iii) it allows for comparison between different companies or different sectors of the economy. RoE is sometimes decomposed into separate drivers: this is called the "Dupont analysis", whereRoE = (result/turnover)*(turnover/total assets)*(total assets/equity). The first element is the net profit margin and the last corresponds to the financial leverage multiplier.

Cost to Income Ratio (C/I) (total cost /total income) measures the income generated per $ cost. The cost-to-income ratios shows the ability of the institution to generate profits from a given revenue stream. That is how

expensive it is for the bank to produce a unit of output. The lower the C/I ratio, the better the performance of the bank.

Finally, net interest margin = net interest income / assets (or interest-bearing assets) is a proxy for the income generation capacity of the intermediation function of banks.

2.4 Liquidity Performance

Liquidity indicates the ability of the bank to meet its financial obligations in a timely and effective manner. Samad (2004) states that ''liquidity is the life and blood of a commercial bank''. Financial liabilities are attracted through retail and wholesale distribution channels. Retail generated funding is considered less interest elastic and more reliable than deposits attracted from wholesale distribution channels (Thygerson, 1995). The following ratios are used to measure liquidity.

Liquid assets to deposit-borrowing ratio (LADST) = liquid asset/customer deposit and short term borrowed funds. This ratio indicates the percentage of short term obligations that could be met with the bank's liquid assets in the case of sudden withdrawals.

Net Loans to total asset ratio (NLTA) = Net loans/total assets NLTA measures the percentage of assets that is tied up in loans. The higher the ratio, the less liquid the bank is.

Net loans to deposit and borrowing (NLDST) = Net loans/total deposits and short term borrowings. This ratio indicates the percentage of the total deposits locked into non-liquid assets. A high figure denotes lower liquidity.

2.5 Gearing

The *gearing ratio* is the proportion of a company's debt to its equity. A high gearing ratio is indicative of a great deal of leverage, where a company is using debt to pay for its continuing operations. In a business downturn, such companies may have trouble meeting their debt repayment schedules, and could risk bankruptcy. The situation is especially dangerous when a company

has engaged in debt arrangements with variable interest rates, where a sudden increase in rates could cause serious interest payment problems.

2.6 Limitations of Ratio Analysis

Even though financial ratios are good for analyzing the performance of a company, they have drawbacks that will be outlined in this section. First of all financial ratios of a company cannot be analysed by themselves. They have to be compared to an industry, the economy or the company's past performance. According to BPP (2012) there are limitations of financial ratios analysis such as:

- Companies may adopt differing accounting policies from each other. Different methods of depreciation will lead to different accounting profit figures and hence it may not be appropriate to draw conclusions of the two ratios without making suitable adjustments.
- Although ratio analysis aid in providing clues to the company's performance or its financial position but on their own they cannot show whether performance is good or bad and therefore, they need to be carefully interpreted to draw meaningful conclusions onResearch Report which informed decisions could be made. Furthermore, comparisons need to be made with the 'best in the business' or with industry standards.
- The figures in a company's latest annual accounts is likely to be several months out of date and may not provide most current and best indication of its performance.
- Different businesses may have different sizes and hence may enjoy different levels of economies of scale. Comparisons of such businesses using ratio analysis may not be appropriate as smaller business may not enjoy facilities which are available to large ones (e.g. bulk discounts, extended credit periods, etc).
- Inflation could render the comparison of financial results misleading if compared over longer time period as financial figures will not be within the same level of purchasing power. Improving trend of various ratios

could indicate that the company is performing well but if accounted for inflationary changes it may paint a different picture.

3. Methodology

3.1 Data source and Data collection technique

This paper uses a descriptive financial ratio analysis to measure, describe and analyse the performance of commercial banks in Ethiopia during the period 20009-2012.The study employed quantitative research approach using secondary data gathered from financial statements of commercial banks. The data was obtained from National Bank of Ethiopia, website of the private banks, annual reports and financial statements.

3.2 Sampling design

The population for this research comprise all the banks operating in Ethiopia between 2009 and 2012. A sample of the top seven commercial banks was selected based on the value of their total assets at the end of the 2009 financial year end. These are the banks that dominate the sector with the top 7 banks controlling 90.4% of the total industry assets which makes them systemically important banks. The fact that all banks could not be included in the study constrains the validity of the study. However, only the seven largest Ethiopian banks (Dashen,Awash, Zemen ,Wegagen , Hibret , Nib and Commericail Bank of Ethiopia (CBE)) offer a comprehensive variety of financial services right throughout Ethiopia, all the other banks are either aimed at niche markets or confined to geographical operations or are in their early years of establishment, making them less comparable with the veterans in the industry. Zemen bank was included to see its unique nature.

3.3 Data analysis

Financial ratio analysis (FRA) was used to analyze the general trend of the data from 2009 to 2012 for the variables which included in the study.

Ratio analysis is one of the main accounting techniques of financial analysis to evaluate the financial position and performance of companies. It involves comparison and calculation of a number of profitability, liquidity, efficiency, gearing and investor ratios which in turn paint a thorough picture of the company's performance over a period of time (BPP, 2012).

The main advantage of FRA is its ability and effectiveness in distinguishing high performance firms from others and the fact that FRA compensates for disparities and controls for any size effect on the financial variables being studied (Samad, 2004). Additionally, financial ratios can be used to identify a bank's specific strengths and weaknesses as well as providing detailed information about bank profitability, liquidity and credit quality policies (Hempelet al, 1994: Dietrich, 1996). FRA permits a historical sketch of bank returns and risks which Hempelet al, (1994) suggests presents an opportunity to evaluate the past performance of the bank which is an important step for planning for future performance.

Although accounting data in financial statements is subject to manipulation and financial statements are backward looking, they are the only detailed information available on the bank's overall activities (Sinkey, 2002). Furthermore, they are the only source of information for evaluating the management's potential to generate satisfactory returns in future.

4. Results and Discussion

This section presents the financial ratio analysis using data collected from seven selected banks. Descriptive analysis was employed to analyze data collected and is presented below.

4.1 Profitability

Profitability in commercial banks is determined by the ability of the banks to retain capital, absorb loan losses, support future growth of assets and provide return to investors. The largest source of income to the bank is interest income from lending activity less interest paid on deposits and debt. In this study,

profitability was measured by four ratios which are return on equity,return on assets, cost to income ratio, and net interest margin.

4.1.1 Return on Equity

Return on equity measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested.

Table 1: Return on Equity

	2009	2010	2011	2012
Dashen	27.5%	28.8%	32.3%	35.7%
Awash	28.1%	25.8%	37.8%	32.1%
Zemen	-10.1%	32.2%	35.2%	30.8%
Wegagen	21.6%	21.2%	24.2%	20.9%
United	18.0%	27.4%	25.7%	27.0%
Nib	21.1%	21.9%	29.4%	25.5%
CBE	38.1%	45.1%	45.9%	71.6%
Sector	28.7%	28.6%	33.1%	42.1%

Source: Authors own construct

Figure 1: Return on Equity
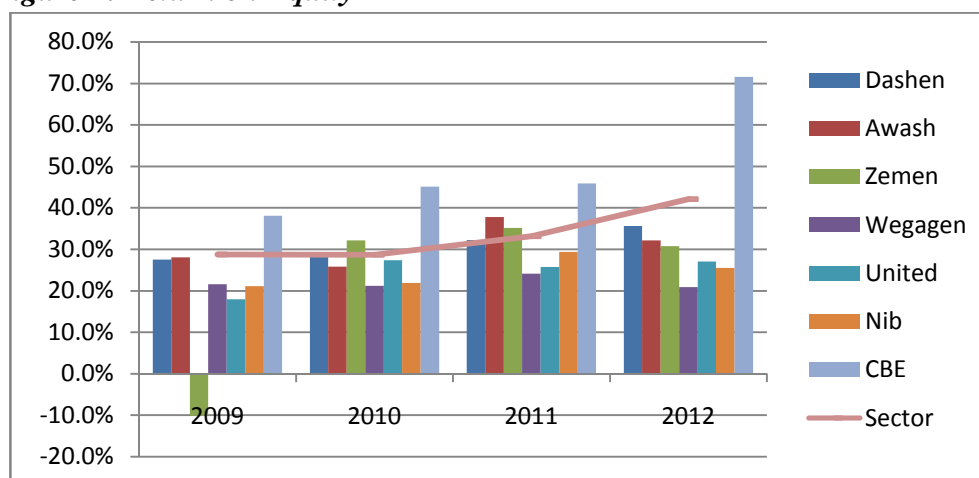
Source: Authors own construct

Figure 1 shows the profitability, as measured by RoE, trend of the banks under study as well as the industry average for the years 2009 to 2012. First of all what is clear from the line graph is the sector's return on equity is raising slightly in the last two years 2011/12 and 2010/11 after being relatively stagnant in 2009/10. Further, it is the Commercial Bank of Ethiopia that is consistently performing above the industry average RoE as well as the RoE of all the banks under study.The CBE is also the bank showing the highest percentage increase in RoE of about 56% in the year 2011/12 after maintaining relatively similar levels of RoE in the years 2010 and 2011. One reason for such a dramatic jump in RoEis that the CBE operates at a very large scale compared to the other banks and its equity relative to its total capital is very small. For example, while CBE's total assets increased by more than 166% in the period 2009 to 2012, its equity increased by only about 50% and its profit figure increased more than 180% in the same period. What the commercial bank of Ethiopia is doing is that it is increasing its profit by using a significantly larger capital base but without a proportionate increase in its equity capital. This highly leveraged position may be good for the bank as it has a multiplier effect on its RoE during times of profitability, but it is also risky because it makes the bank's ability to absorb shocks very low (De Wet, etal., 2007).

Zemen Bank's climb from a loss in its initial year to a RoE above the industry average in 2010 was remarkable because it was also better than the other banks except CBE in that year.

Another important observation is that Dashen bank has continuously improved its RoE throughout the study period from 27.5% in 2009 to 28.8%, 32.3% and 35.7% in the three years that followed. This represented a 4.9%, 11.9%, and 10.5% improvement in each of the years 2010, 2011, and 2012.

Looking at the average RoE of all banks for the period covered by the study, the highest was obviously that of CBE's at 50.2%, Zemen and Wegagen showed the lowest at 22%. Zemen Bank's position was due to its negative RoE in its year of commencement, 2009, but Wegagen Bank's low RoE record may be a point of concern compared to that of the other banks and the industry average which stands at an average RoE for the four year period of 33.1%.

Another important aspect of interest about the roe is its stability overtime. As mentioned above Dashen and CBE have been in an upward trend in their RoE for all the four years. But others have seen both upward and downward trends. Hence it makes sense to compare the variability of the banks other than these two to measure their stability. Using standard deviation, the sector has seen a 6.3% fluctuation in RoE. All the banks under study had lower standard deviation than the sector as a whole, Wegagen being with the lowest standard deviation of 1.49%. This indicates Wegagen Bank, although it had the lowest average RoE of all banks, it is also the bank with the most stable earnings over time which means the bank with the lowest risk to shareholders.

4.1.2 Return on Assets

One of the variables that explain the above variation of RoE of banks is their ability to generate enough net profit on the assets they employ. RoA is a measure of how efficiently a bank uses its assets. That is, the amount of profit a bank is generating per one birr in assets that it employs. The higher the RoA the more efficient the bank is in utilizing its assets.

Table 2: Return on Assets

	2009	**2010**	**2011**	**2012**
Dashen	2.6%	2.6%	3.1%	3.7%
Awash	3.0%	2.7%	4.6%	4.0%
Zemen	-2.0%	4.8%	5.2%	3.6%
Wegagen	3.5%	3.9%	4.0%	4.0%
United	2.0%	3.0%	3.0%	3.4%
Nib	3.2%	3.4%	4.8%	4.7%
CBE	3.2%	3.8%	2.5%	3.4%
Sector	2.9%	2.7%	2.7%	3.3%

Source: Authors own construct

Figure 2: Return on Assets
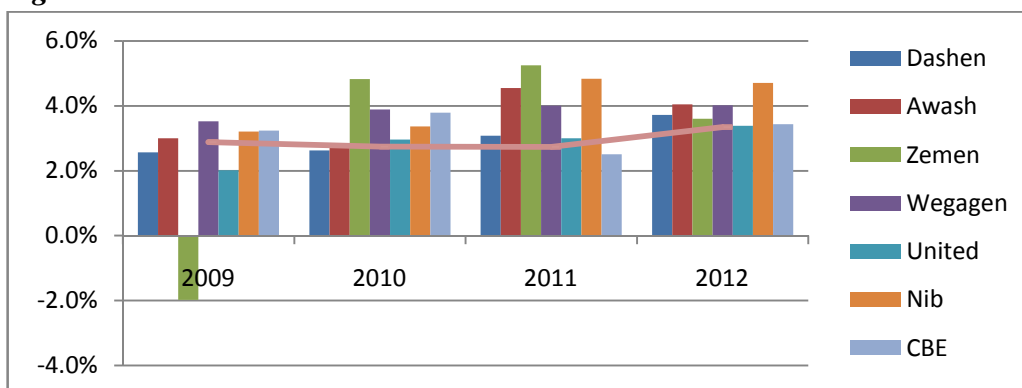
Source: Authors own construct

As opposed to the above comparison of the banks using RoE, in which CBE appeared to dominate all the banks, Figure 2 shows different banks excelling in different times in terms of efficiency in asset utilization. In 2009 Wegagen Bank showed the highest RoA of 3.5% followed by Nib and CBE, both at 3.2%. In 2010 and 2011, Zemen Bank recovered from its loss making position in 2009 to being the bank with the highest RoA of 4.8% and 5.2% respectively. Finally, in 2012, Nib was the leader in efficiency at RoA of 4.7%. This shows that the leading position of the CBE in RoE terms is not explained by its efficiency of its asset utilization but by the fact that its equity is relatively very small.

The highest boost in RoA was that shown by Awash Bank in the year 2011 which is a 66% increase from 2.7% in 2010 to 4.6% in 2011. During that year, the profit of Awash bank morethan doubled while its assets increased only by about one fifth of the percentage increase in its profit. In other words, Awash bank was able to generate a remarkably higher level of profit in 2011 for every Birr in its assets. A deeper investigation of this ability to generate higher profit may indicate awash bank was either able to generate more revenue and maintained the profit margin and/or increased the profit margin for the revenue it generated which means it better controlled its costs.

It is interesting to observe that Dashen Bank has consistently improved its RoA and RoE throughout the study period explaining the upward trend of its RoE, at

least partly, by its efficiency in asset utilization.It improved its RoA by 21.7% from 2.57% in 2009 to 2.62 in 2010. It also continued to improve that figure to 3.08% and 3.72% in 2011 and 2012 respectively. This represented a 17.6% and 20.7% improvement in each of these years.

Zemen bank, reported the highest RoA in the first year it reported a profit in 2010, the fiscal year following its year of establishment. This can be explained by its unique business model in the country. The fact that it has a single branch gives it a unique advantage to keep its asset base low. This continued through the following year 2011, Zemen reporting an exceptionally high RoA of 5.25% representing an 8.5% above its RoA in 2010.Finally,Zemen Bank's RoA came down sharply in 2012 to 3.61% which meant a 31% decline from the preceding year's RoA. The reason is that while its total asset figure continued to increase by 48.35% compared to the increase in the previous year at 52.89%, profit increased far too slowly at about 2% compared to the 66% increase in 2011. In fact, the revenue figure for this bank has shown a decline in 2012. The increase in assets is mainly driven by a 54% increase in deposits and equity increased by about 16.6% showing increase in the gearing level that we will see in a later section.

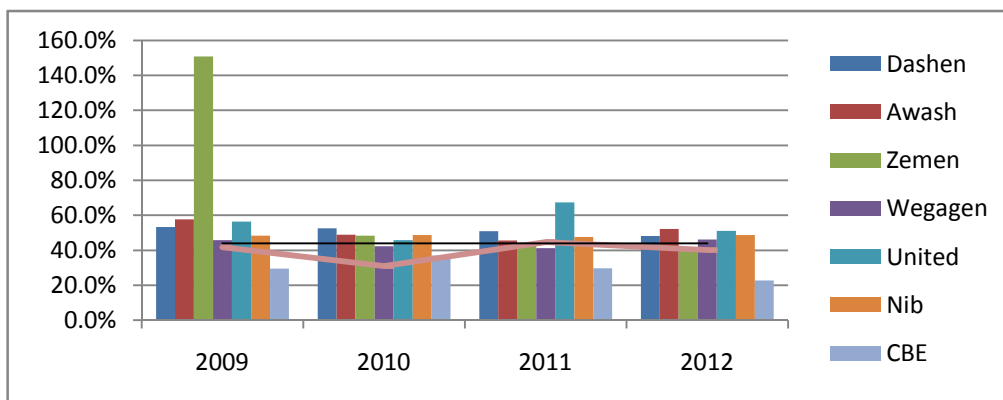### 4.1.3 Cost to Income Ratio

The Cost to Income ratio is an efficiency measure similar to operating margin. Cost to income ratio measures a bank's ability to earn a profit from the revenue it generates. This is purely a measure of a bank's cost control. No matter how much revenue it generates, a bank cannot be profitable unless it is able to control its costs. A lower cost to income ratio is better as it indicates a lower cost relative to revenue.

Table 3: Cost to Income Ratio

Cost to Income Ratio

	2009	**2010**	**2011**	**2012**
Dashen	53.3%	52.5%	50.9%	48.2%
Awash	57.6%	48.9%	45.5%	52.2%
Zemen	150.8%	48.4%	44.4%	40.5%
Wegagen	45.8%	42.3%	41.2%	46.1%
United	56.4%	45.8%	67.4%	51.1%
Nib	48.4%	48.7%	47.6%	48.7%
CBE	29.4%	37.0%	29.6%	22.6%
Sector	41.7%	30.8%	44.7%	40.0%

Source: Authors own construct

Figure 3: Cost to Income Ratio

Source: Authors own construct

Looking at Figure 3, Zemen Bank shows an extremely high level of cost to income ratio in 2009, costs being more than 150% of income. This is not surprising, though, as the bank started operations that year. It didn't take long for Zemen to bring down its cost to income ratio to only 48.4% just a year later in 2010 being even better than three banks in this measure; Dashen, Awash, and Nib. This is a 67% improvement from the original loss making position of this ratio. This improvement was due to Zemen's ability to increase its revenue

in 2010 to seven and half times what it was in 2009 while its costs increased by only 139%. It also continued to improve its cost to income ratio to 44.4 and 40.5 percent in 2011 and 2012, this being about 8.4% and 8.7% improvement from its respective prior year ratio. This improvement also meant that this bank was the second most efficient bank in this measure in 2012 next to CBE.

It is impressive to observe the bank's flexibility in controlling its cost relative to its revenue. Not only was it able to increase revenues more than the increase in its costs in the first three years of its operations, it was also able to drag down its costs by about 13% when its revenue declined by about 4.8% in 2012, thus continuing to increase its profit by nearly 2% in 2012 despite the decrease in revenue. Whether this is a coincidence or a real management ability is a question that needs further investigation, but it highlights that an important alternative to improve profit may be cost control.

CBE was the most efficient bank in terms of cost to income ratio in three of the four years considered in the study with costs being only 29.4%, 29.6%, and 22.6% of its revenue in the years 2009, 2011, and 2012 respectively. CBE's unusual rise in its cost to income ratio to 37% in 2010 was the result of costs increasing in this year dramatically by 46% compared to the increase of only 16% in revenues. A closer look at the income statement figures showed that CBE's interest and non-interest revenues increased by a similar around 16%, the expenses in the same year increased at 47%. The breakdown of the expenses in to interest and non interest showed that interest expenses raised by about 21% but noninterest expenses increased by 78%.

Dashen Bank continuously improved its cost to income ratio during the four years in a steady fashion of about two to three percentage points every year. Though its cost to income ratio is relatively high, in fact the highest in 2010, compared to other banks, it is improving every year in a stable way.

Other banks showed cost to income ratio about close to each other and fluctuating from time to time. This may indicate lack of conscious cost control.
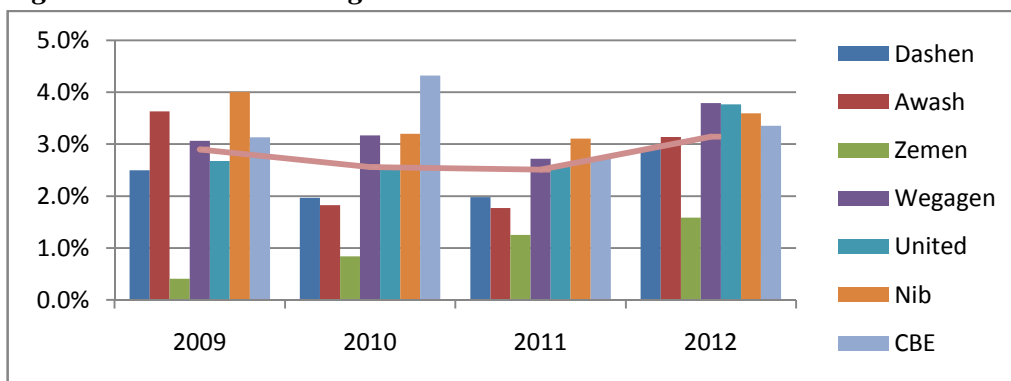
4.1.4 Net Interest Margin

Net interest margin (NIM) is a measure of the difference between the interest income generated by banks or other financial institutions and the amount of interest paid out to their lenders (for example, deposits), relative to the amount of their (interest-earning) assets. It is similar to the gross margin of non-financial companies. Banks are keenly interested in their net interest margins because they lend at one rate and pay depositors at another.

Table 4: Net interest margin

	2009	2010	2011	2012
Dashen	2.50%	1.97%	1.98%	2.93%
Awash	3.63%	1.83%	1.77%	3.14%
Zemen	0.41%	0.84%	1.25%	1.59%
Wegagen	3.06%	3.17%	2.72%	3.79%
United	2.67%	2.53%	2.57%	3.77%
Nib	4.00%	3.20%	3.11%	3.59%
CBE	3.13%	4.32%	2.73%	3.35%
Sector	2.90%	2.56%	2.51%	3.14%

Source: Authors own construct

Figure 4: Net interest margin

Source: Authors own construct

Figure 4 shows the net interest margin of the banks in our consideration for the years 2009 to 2012.The immediate observation we can take from the graph in 2009 is that Zemen Bank had the lowest net interest margin of all in that year at 0.41%. This isagain explained by the fact that this was the year of establishment for the bank. After that, Zemen Bank continuously improved its net interest margin for the next three years to 0.84%, 1.25%, and 1.59%. This was a 106%, 49%, and 26% improvement in net interest margin implying Zemen has been able to earn more and more interest spread on the assets that it invests. This improvement was driven by the fact that, during this period, Zemen Bank's net interest income was growing 1.8 to 2.8 times the growth in its interest bearing assets. For example in 2010 Zemen Bank's net interest income increased 400% from the same figure in 2009 while the growth in its interest bearing assets was140%. Similarly in 2011, net interest income increased by 132% and its interest bearing assets by about 56%. Finally, in 2012, the growth was at 88% and 48% for Zemen'snet interest income and interest bearing assets respectively compared to the previous year's position.

Nib earned the highest net interest margin in 2009 of 4% but this figure quickly dropped to 3.2% and 3.1% in 2010 and 2011 before it finally rose to about 3.6% in 2012.It has been above the sector average all four years. It was the highest among the banks under this study in 2011 too.

Unlike in other measures of profitability, Dashen Bank's net interest margin did not consistently rise over the four years. It started at 2.50% in 2009 and dropped to 1.97% and 1.98% in 2010 and 2011 and finally rose to 2.93% in 2012.

Similarly Wegagen Bank's net interest margin showed a slight increase of 3.46% in 2010 as compared to 2009, but decreased by 14.18% in 2011 and finally increased by a huge 39.47% in 2012.

CBE's net interest margin was at its peak in 2010 at 4.32% which is the highest of all banks for the whole four years under study. This accounts for an improvement of 38.13% from the figure in 2009 but it dropped by about 36.89% in 2011 to only 2.73%. This figure was better in 2012 by 22.86% at 3.35%.

The net interest margin goes on for all other banks and the industry average in this way during the study period. Most of them showed a decline in 2010 as compared to 2009, all of them were at their minimum in 2011 and all of them were better in 2012 compared to 2011. It is possible to take an understanding that the government's policy to restrict loan during those years has caused the fluctuation (Access capital, 2011).
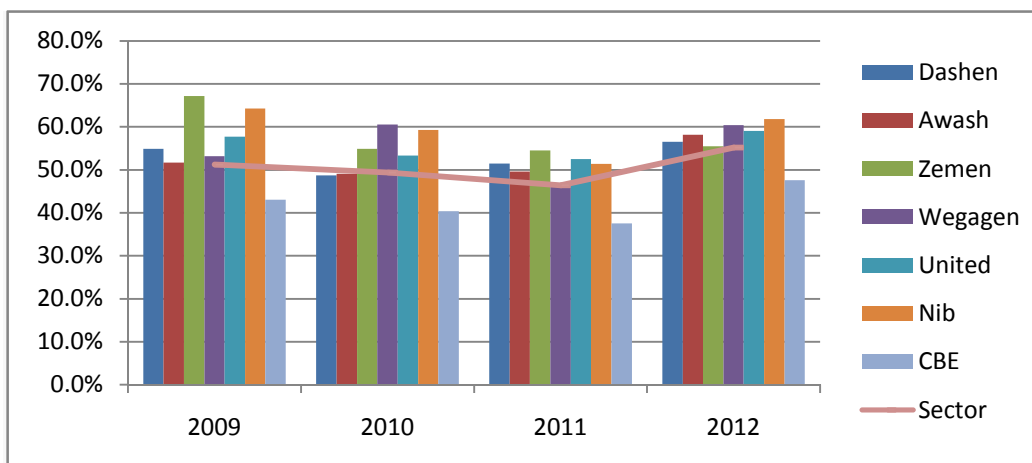
4.2 Liquidity

Liquidity performance measures the ability to meet financial obligations as they become due and is crucial to the sustained viability of banking institutions. It can be described as the ability of a bank to have sufficient funds to meet cash demands for loans, deposit withdrawals, and operating expenses. For this reason, a balance should be found between the amount of deposits garnered and the quantum of loans extended.

Table 5: Net Loan to deposit ratio (NLDST)

	2009	2010	2011	2012	Average
Dashen	54.9%	48.7%	51.5%	56.5%	52.9%
Awash	51.7%	49.1%	49.6%	58.2%	52.1%
Zemen	67.2%	54.9%	54.5%	55.5%	58.0%
Wegagen	53.2%	60.6%	46.6%	60.4%	55.2%
United	57.7%	53.3%	52.5%	59.0%	55.6%
Nib	64.3%	59.3%	51.4%	61.8%	59.2%
CBE	43.1%	40.4%	37.5%	47.6%	42.2%
Sector	51.2%	49.4%	46.4%	55.2%	50.5%

Source: Authors own construct

Figure 5: Net Loan to deposit ratio (NLDST)

Source: Authors own construct

The NLDST is a commonly used measure for assessing a bank's liquidity by dividing the bank's total loans by its total deposits. This number, also known as the LTD ratio, is expressed as a percentage.

A high loans to deposits ratio means that the bank is issuing out more of its deposits in the form of interest-bearing loans, which, in turn, means it will generate more income. On the other hand, the bank has to repay deposits on request, so having a ratio that is too high puts the bank at high risk. A very low ratio means that the bank is at low risk, but it also means it isn't using its assets to generate income and may even end up losing money.

The general trend of NLDST among all the banks being considered and the sector average is that this ratio has shown on average a reduction in 2010 and 2011 before it increased in 2012. The sectors NLDST was at its lowest in the four years in 2011 at 46.4% and it was the highest in 2012 at 55.2% which represented about 19% increase from the figure in 2011.

This generally means that the banking sectors over all liquidly improved during 2010 and 2011 as less of the deposits were tied up in illiquid loans compared to the situation in 2009 and 2012.

Looking at the individual banks under study, Zemen Bank had the highest NLDST in 2009 of 67.2% indicating the lowest liquidity of that bank in that year followed by Nib's 64.3% of deposits garnered as loans in that year. This was clearly reflected in Nib Bank's net interest margin ratio being the highest in 2009 as shown in figure 4 reflecting lower liquidity results in higher income.

Zemen Bank's net interest margin was, of course, the lowest in that year, but this doesn't contradict with what is already mentioned above because it is the result of its being a newly established bank and loans may not have earned interest for the whole year.

The lowest NLDST is experienced by CBE in all the four years making CBE the most liquid bank. CBE's ratio shows loans at 43.1% of deposits in 2009 and this even decline to 40.4% in 2010 and 37.5% in 2011 before it finally increased to 47.6% in 2012.

This highest level of liquidity for CBE makes it safer but at the expense of the potential incremental profit that could have been attained by extending additional interest earning loans and still remaining as safe as the other banks. This can explain the bank's inefficiency measured by its RoA. Despite the asset size, this banks RoA was far below its competitors reflecting the high size of assets not earning money. CBE should consider utilizing its asset to a greater extent in making more profits.

The reason behind the decline in liquidly ratio in all banks in 2012 was that the amount of loans extended sharply increased by an average of 55% in that year compared to the 35% in 2011. This increased the ratio of loans to deposits because deposits increased at a lower rate of 31% relative to the increase in loans in 2012. This is as compared to the increase in deposits in 2011 which was at a higher rate of 44% compared to the increase in loans of 35% in that year. This was a common trend for all the banks except Zemen. Zemen's loans and deposits were increasing at what can seem extraordinary at first glance. Loans increased at 102%, 68%, and 57% and deposits by 148%, 69%, and 54% in 2010, 2011 and 2012 respectively. This is because, as a start up bank, Zemen's figures of loans and deposits were relatively very small especially in

2009, and the increase in the absolute figures of loans and deposits resulted in what can possibly look like an extraordinary change in percentage terms.

Table 6 : Net Loans to Total Assets Ratio (NLTA)

	2009	2010	2011	2012	Average
Dashen	44.7%	40.0%	41.7%	45.4%	42.9%
Awash	35.9%	33.2%	34.6%	40.8%	36.2%
Zemen	40.4%	35.8%	39.3%	41.5%	39.2%
Wegagen	38.8%	41.4%	34.5%	41.7%	39.1%
United	44.8%	42.7%	41.2%	45.4%	43.6%
Nib	44.1%	41.0%	37.3%	43.6%	41.5%
CBE	31.5%	30.2%	29.2%	36.0%	31.7%
Sector	38.2%	36.9%	34.9%	40.7%	37.7%

Source: Authors own construct

Figure 6: Net Loans to Total Assets Ratio (NLTA)
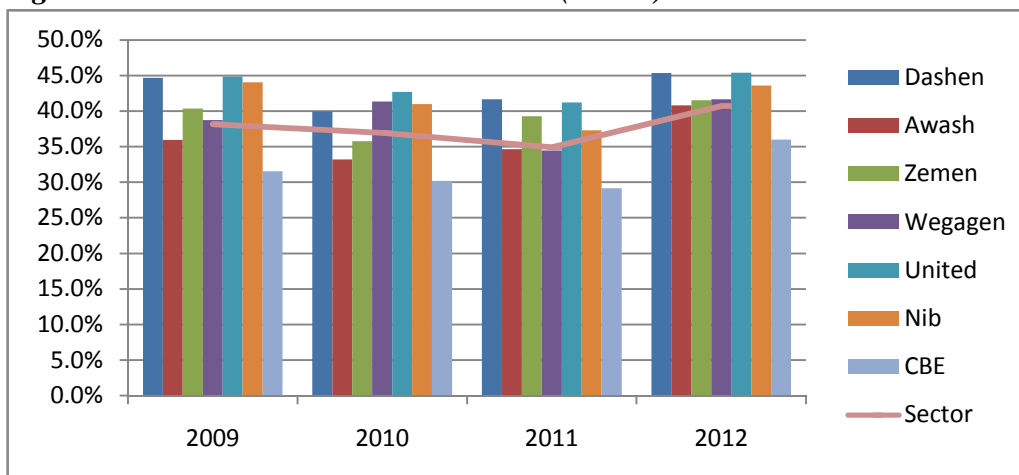
Source: Authors own construct

Though the ratio of net loans to total assets does not directly measure liquidity, it gives an indication of how much of the bank assets are tied into illiquid loans.

Similar to the NLDST, the banking sector's overall NLTA showed what can be described as a u-shaped trend over the four years, 2009-2012. It was 36.9% in 2010, showing a slight reduction of about 1.3 percentage points compared to the 38.2% in 2009. This reduction even continued in 2011 by about 2 percentage points and was at 34.9% before finally soaring to 40.7% in 2012.

This was also the case for each of the individual banks under consideration. Their NLTA reduced from its level in 2009 in both 2010 and 2011 and sharply increased in 2012.

This was consistent with the trend of net interest margin shown in figure 4 above for most of the banks. Since loan figure compared to total assets is down during the two years 2010 and 2011, net interest income (interest income minus interest expense) is due to decline relative to the assets of the banks. This is because the banks' interest earning depends on their being able to granting loans to their customers. If their loan is reduced, so does their interest income without necessarily reducing their interest expense as they still can have deposits from customers on which they pay interest.

4.3 Gearing

A European central bank's report on EU banking structures states "recent events have shown that the most common measure for a bank's performance, i.e. RoE, is only part of the story, as a good level of RoE may either reflect a good level of profitability or more limited equity capital." The report is of the position that a good level of RoE driven by high level of leverage rather than a good level of profitability is largely unsustainable. Gearing is a two edged sword it magnifies your shareholders returns, both positive and negative. So, while it is good at good times,it may be devastating when your earnings turn south.

We use the equity to total asset ratio to measure the level of gearing each bank is employing.

Table 7: Long Term Equity ratio (Equity/ total Asset)

	2009	2010	2011	2012
Dashen	9.3%	9.09%	9.6%	10.4%
Awash	10.7%	10.6%	12.1%	12.6%
Zemen	19.6%	15.0%	14.9%	11.7%
Wegagen	16.3%	18.3%	16.6%	19.2%
United	11.2%	10.8%	11.7%	12.5%
Nib	15.2%	15.4%	16.5%	18.5%
CBE	8.5%	8.4%	5.5%	4.8%
Sector	10.0%	9.6%	8.3%	7.9%

Source: Authors own construct

Figure 7: Long Term Equity ratio (Equity/ total Asset)
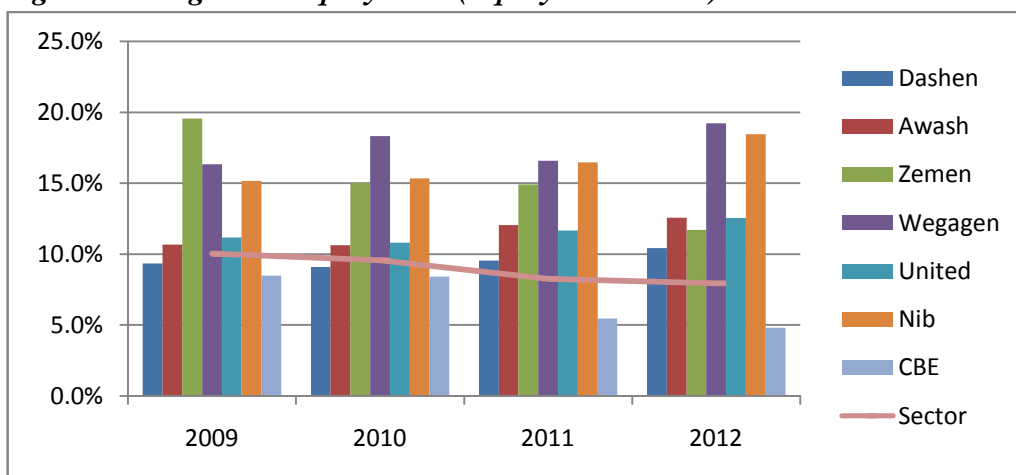
Source: Authors own construct

Figure 7 shows the gearing levels of the banks under study. The highest equity relative to total assets is employed by Zemen Bank in 2009, 19.6%. This actually does not reflect a deliberate managerial decision to do that, it simply meant that Zemen Bank did not yet mobilize much borrowed funds (mainly deposits) in that early time of starting its business. This is true because that didn't continue any time further and Zemen Bank's equity relative to its total

assets fell from nearly 20% in 2009, to about 11.7% in 2012. It was never the highest equity financed bank in the group in the remaining three years.

Wegagen Bank, the second highest equity financed bank in 2009, rather seemed to follow that policy of maintaining its debt equity mix. Its equity relative to its total assets was the highest in 2010, 2011, and 2012 at 18.3%, 16.6%, and 19.2%. There is a similar upward trend in the equity to total assets ratio of Nib Bank. Nib's equity to total assets ratio consistently increased in the four years from 15.2% in 2009 to 18.5% in 2012. Awash and United banks' equity level did not vary much during this period; it was around 10 and 12 percent. Compared to Wegagen and Nib's position, this is a relatively low equity level but it is also consistent during the whole four years.

The graph shows the lowest equity levels for Dashen Bank and CBE. What's more, CBE's equity level is significantly decreasing. While Dashen Bank's equity relative to assets was mostly around 9 to 11 percent, CBE's ratio dramatically declined from about eight and half percent in 2009 and 2010 to 5.5 and 4.8 percent in 2011 and 2012. This is driven by CBE's campaign of mobilizing deposit in recent years without increasing its equity base. This trend also supports the exceptionally high RoE shown by the bank recently while its RoA is among the lowest. Thus CBE's high level of profitability as measured by its return on equity is not the result of the bank's ability to earn high profits but a result of its very low equity level. This makes it a bank with low shock absorbing capacity because its RoE can swing greatly even with a slight movement in its earnings.

5. Summary, Conclusions and Recommendations

5.1 Summary and Conclusions

This paper has examined the performance of seven Ethiopian commercial banks over a period of four years, 2009 – 2012. The banks showed differing levels of profitability, liquidity, and gearing levels which indicates their differing levels of return and risk.

The government owned bank CBE showed the highest level of RoE all the time but this was driven by its high leverage levels. It is the bank that provides high return to shareholders but with substantial risk.

Zemen Bank has shown a RoE comparable to other banks just after reporting a negative profitability just for one year. The seniority of the other banks was not much of a factor to determine their level of RoE.

Dashen Bank's RoE has shown a continuous improvement over time. This shows the quality of the return it provides to its shareholders.

Wegagen Bank had the lowest level of average RoE, indicating a very low level of return but it is also the bank with the most stable earnings as indicated by the lowest level of standard deviation in its four year RoE meaning it has also the lowest risk. Wegagen Bank's low level of RoE is not the result of its inability to generate profit. The bank's return on its assets (RoA) is among the highest in all the years.

As with its RoE, Dashen Bank continuously increased its RoA which indicates Dashen Bank's profitability is the result of generating enough return on its assets.

Zemen Bank's RoA declined in 2012 after showing exceptional improvement for the years before it. This was not the result of decline in the amount of profit but the result of increasing the amount of total assets employed to generate this profit. The increase in total assets was mainly driven by the increase in deposits. Zemen Bank was unable to generate enough profit to the assets it is employing to maintain the level of return per birr in its assets it was generating until 2011.

Zemen Banks increase in its profit figure despite the decrease in its revenue in 2012, highlights that profit can be improved not only by the increase in revenue, but also by a better cost control.

CBE was the most efficient bank in its Cost to Income ratio in all the years under study except in 2010. This was the result of an unusually high increase in its costs especially its non interest costs.

Dashen Bank's cost to income ratio is what we can describe as high relative to other banks under study, but when observed over time it showed a continuous improvement, consistent to the other profitability measures.

Regarding liquidity of the banks studied, no one has ever heard of a bank in Ethiopia being in problem meeting its cash demands but there are important areas in which the banks can do something to improve their performance. Liquidity is not seen in this study only from the perspective of banks facing a problem meeting their cash demands but also from the potential effect on profitability.

2012 was the year in which the LTD ratio increased for all banks under study after the decline in 2010 and 2011. This is due to the increase in the amount of loan extended in this year. The government's policy to restrict granting loans is most likely the cause for the low level of loan to deposit ratio in the years before 2012.

Generally the banks in Ethiopia are not extending enough interest bearing loans to help their profits. This is especially true with CBE which stands to be the most liquid bank throughout the period under study.

Banks in Ethiopia show varying levels of gearing. Wegagen Bank is the bank that uses the highest proportion of equity in its total assets. In other words it is the bank with the lowest level of gearing. This helps the bank to have a better capacity to absorb potential fluctuations in its earnings. This is reflected in the stability of its RoE.

On the other hand, CBE is the one with the lowest and declining level of equity to total assets. This is potentially dangerous as the high level of return to its equity remains unsustainable and is under undue exposure to risk.

5.2 Recommendations

Based on the analysis and conclusions made in the previous sections, the following recommendations are forwarded to improve the banks' performance.

> ➢ Ethiopian commercial banks do not appear to fully utilize their assets to generate income. The low level of loan to deposit ratio shows a potential to increase more loans to generate more revenue. The banks are recommended to invest in interest bearing assets, mainly loans, to fully utilize their revenue generating capacity.

> ➢ Commercial Bank of Ethiopia should accompany its capital growth by growth in equity. This may be done by increasing their reinvestment rate; i.e. decreasing the dividend payout ratio. Much emphasis should be put on improving the return on assets (RoA) rather than increasing leverage as a means of improving shareholder return.

> ➢ CBE should utilize its capacity to generate revenue, and profit, by extending more loans with its current levels of deposit than campaigning for more deposits. If put idle, deposits are nothing but cost to the bank.

> ➢ The Ethiopian government is recommended to balance its desire to control inflation with the need to maintain lasting viability of the banking industry. Net interest margin of all banks dropped in the years 2010 and 2011. This was due to the fact that the banks did not issue as much loan as they could during those years due to the government's policy to restrict loans.

> ➢ Zemen Bank seems to reach a saturation point in its earning capacity. Its RoA declined in 2012 as a result of declining revenues. Appropriate strategies should be put in place to continue its growth in its earnings.

> ➢ Commercial Bank of Ethiopia needs to continue its cost consciousness. In 2012 CBE's costs relative to its revenue has increased significantly. This shows the bank is weakening in terms of controlling its costs, especially non interest costs, as compared to its leading position in this measure.

5.3 Limitations of the study and recommendation for further study

The study aims to show how useful accounting data can be in measuring the success of a company. It also tries to demonstrate the effect of changes in government policy on the performance of commercial banks in Ethiopia. The banks studied include both public and private commercial banks and banks of different sizes.

One limitation to the validity of the study is the fact that it could not include all banks. Besides, this study measures the performance of the banks relative to each other, overtime, and the industry average. This, however, does not necessarily indicate how well the individual banks are doing as we do not know where the country's banking industry stands in terms of its profitability and risk relative to other suitable benchmarks. Further studies are recommended that address these limitations.

References

Access capital.2011.*Ethiopia: Macroeconomic Handbook*.Acess on [January
     21, 2014] [online] [http://www.portaldecomert.ro/Files/01.12%20-
%20Info%20A%20A%20nr%2080_10%2001%202012%20ANEXA%20Ethio
pia%20.pdf]

Berger, A.N. and Humphrey, D.B. 1997. Efficiency of financial institutions:
     international survey and directions for future research. *European Journal
     of Operational Research*, Vol 98, pp.175-212.

BPP.2012. Study Text Paper F7*: Financial Reporting*. BPP Learning Media
     ltd. London UK

Casu, B., Molyneux, P. And Girardone, C. (2006).*Introduction to Banking,*
     Prentice Hall/ Financial Times, London.

Dev, A. and Rao, V. 2006. Performance Measurement in Financial Institutions
     in an ERM Framework: *A Practitioner Guide*, Risk Books.

De Wet, J.H.v.H. and De Toit, E. 2007.Return on equity: *A popular, but flawed
     measure of corporate financial performance*. Department of Financial
     Management, University of Pretoria.

European Central Bank. 2010.Beyond RoE: *How to Measure Bank
      performance*. Frankfurt am Main, Germany. Access on [December 20,
      2013][Online]

[http://www.ecb.europa.eu/pub/pdf/other/beyondroehowtomeasurebankperfor
mance201009en.pdf]

Halkos, G. and Salamouris, D. 2004. Efficiency measurement of the Greek
     commercial banks with the use of financial ratios: *a data envelope analysis
     approach*. *Management Accounting Research* 15 (2), pp 201- 224.

Kirkpatrick, C., Murinde, V. and Tefula, M. 2007.The measurement and
     determinants of x-inefficiency in commercial banks in Sub-Saharan
     Africa. *European Journal of Finance* 14 (7) 2, pp 625-639.

Kiyota, H. 2009.Efficiency of Commercial Banks in Sub-Saharan Africa: *A
     Comparative Analysis of Domestic and Foreign Banks.* A paper prepared
     for the CSAE conference 2009 on "Economic Development in Africa"
     held at the University of Oxford. UK.

Lacewell, S., K. 2003. Do Efficient Institutions Score Well Using Ratio
     Analysis? An Examination of Commercial Banks in The 1990s. *Journal
     of Commercial Banking and Finance* 2, pp 17-33

Ncube, M. 2009. Efficiency of the Banking Sector in South Africa, *African
     Economic Conference 2009.*Fostering Development in an Era of Financial
     and Economic Crises, Addis Ababa.

Oberholzer, M. and Van der Westhuizen, G. 2004**.**An Empirical Study on
    Measuring Efficiency and Profitability of Bank Regions.*Meditari
    Accountancy Research* 12 (1), pp 165–178.

Okeahalam, C. 2006. Production costs and efficiency in the South African
    banking sector: a stochastic analysis. *International Review of Applied
    Economics* 20, pp 103–23.

Otley, D T. 2002 In: *Business Performance Measurement: Theory and
    Practice*. Cambridge : Cambridge University Press p. 3-21. 19 p.
    Ross SA, Westerfield RW, and Jaffe FJ. 2003. *Corporate Finance*.Sixth
    Edition.McGraw-Hill/Irwin.

Samad, A. 2004.Bahrain Commercial Bank's Performance during 1994
    -2001.*Credit and Financial Management Review* 10(1) pp 33-40.

Seiford, L., M and Zhu, J.1999. Profitability and Marketability of the Top 55
    U.S. Commercial Banks *Management Science* 45 (9), pp 1270-1288.

Tarawneh, M. 2006. A Comparison of Financial Performance in the Banking
    Sector: Some Evidence from Omani Commercial Banks". *International
    Research Journal of Finance and Economics* 3, pp 103-112.

Tobias Olweny and Themba Mamba Shipho.2011. Effects of Banking Sectoral
    Factors on the Profitability of Commercial Banks in Kenya, *Economics
    and Finance Review* Vol. 1(5) pp. 01 – 30, July, ISSN: 2047 – 0401.

Webb, R.M. 2003. Levels of efficiency in UK retail banks: *a DEA window
    analysis*. *International Journal of the Economics of Business* Vol 10 (3),
    pp 305-322.

Yeh, Q., J. 1996. The Application of Data Envelopment Analysis in
    Conjunction with Financial Ratios for Bank Performance
    Evaluation.*Journal of the Operational Research Society* 47, pp 980-988.