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Comparative Appraisal of Asset Liability Management Between Commercial Bank of Ethiopia (CBE) and Dashen Bank (DB), Ethiopia

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Introduction

The present study is based on the comparative appraisal of management of asset and liability of one public sector bank namely Commercial Bank of Ethiopia and one private sector bank called Dashen Bank. Normally liability of the bank refers to the deposit made by customers which are repayable on demand. This deposit includes time and demand deposits. The asset of the bank is the loan and advance granted to the borrowers at a particular rate of interest. The bank receives deposit from customers and lends this money to borrowers. Then it becomes extremely important for banks to manage the asset and liability in order to avoid any gap and liquidity crisis.

The Asset Liability management includes all deposits and advances, maturity of deposits and incremental assets and liabilities, etc. It is a decision making responsible for balance sheet planning from risk and return point of view including the strategic management of liquidity, interest rate risks. The business and risk management strategy of the bank should ensure that the bank operates within the limited parameters set by the guideline.

Assets and liabilities management basically refers to the process by which an institution manages its balance sheet in order to allow for alternative interest rate and liquidity scenarios. Banks and other financial institutions irrespective of its size provide services which expose them to various kinds of risk like credit risk, interest rate risk, liquidity risk and solvency risk and so on. Failure to identify the risk may affect the financial position of the financial institutions. One of the strategies for risk management to assess such risk is Asset Liability Management (ALM). ALM is an attempt to analyze the gap between assets and liabilities in terms of their maturities and interest rate sensitivities so that banks can minimize the risk arising from such gap mainly from interest rate risk and liquidity risk.

In order to develop ALM policies, at the macro-level, ALM leads to the formulation of critical business policies, efficient allocation of capital, and designing of products with appropriate pricing strategies, while at the micro-level, the objective of the ALM aims at profitability through price matching while ensuring liquidity by means of maturity matching. An efficient Asset liability management system aims to manage the interest rate risk, quality and liquidity of the assets and liabilities as a whole, so as to earn a predetermined, acceptable risk to reward ratio. ALM is not limited to assets and liabilities such as deposits and lending's only, but also includes off-balance sheet activities such as swap, futures and options. The objective of ALM is to make banks fully prepared to face the emerging challenges. The research is focused on comparing the ALM practice between one government owned Bank and one private owned bank in Ethiopia.

Statement of the problem

Since Asset liability management is crucial to an organization and failures to manage it properly leads that organization either to bankruptcy or incompetency in the competitive firm. Therefore managing all these particulars in any organization successfully leads to the better utilization of resources or helps to exploit the opportunities in the competitive market. Any Asset liability management (ALM) in banking areas of Ethiopia is considered to be a gap and one critical issue which need scholarly investigations to overcome the gaps but no clear studies have done yet on ALM practice in the country. There is no published study found comparing ALM of CBE and DB. Unable to manage asset and liability both in CBE and Dashen bank at corporate level is assumed to be the challenge to both the banks and undertaking a research this issue in both of the organizations will be deemed to be worthwhile for both the banks.

Objectives of the study

a. **General Objective:** To compare and contrast the Asset Liability Management (ALM) practices between Commercial Bank of Ethiopia (CBE) and Dashen Bank (DB) at corporate level.

b. Specific Objectives

- To compare the profitability between CBE and DB.
- To compare and contrast the ALM practices in both banks relating to interest rate risk, credit risk, liquidity risk, solvency risks and so on.

HYPOTHESIS TESTS

Hypothesis1: *Return on Asset (ROA) ratio of Commercial Bank of Ethiopia (CBE) is not better than Dashen Bank (DB).*

Hypothesis 2: *Return on equity (ROE) ratio of Commercial Bank of Ethiopia (CBE) is not better than Dashen Bank (DB).*

***Hypothesis 3*: *Return on Investment (ROI) ratio of Commercial Bank of Ethiopia (CBE) is not better than Dashen Bank (DB.)*

***Hypothesis* 4:** *Net Interest Margin (NIM) ratio of Commercial Bank of Ethiopia (CBE) is not better than Dashen Bank.*

***Hypothesis* 5:** *Loan /deposit (L/D) ratio of Commercial Bank of Ethiopia (CBE) is not better than Dashen Bank (DB.)*

Hypothesis 6: *Loan Collection/Loan Disbursement ration of Commercial Bank of Ethiopia (CBE) is not better than Dashen Bank (DB).*

Hypothesis 7: *Liquidity ratio of Commercial Bank of Ethiopia (CBE) is not better than Dashen Bank (DB).*

***Hypothesis* 8:** *Solvency ratio(S/R) of Commercial Bank of Ethiopia is not better than Dashen Bank (DB).*

Literature Review

The following related literatures talks about the asset liability management practices in various banks.

Asset Liability Management (ALM)

Asset Liability management (ALM) is the practice of managing a business so that decisions and actions taken with respects to Assets and Liabilities are coordinated in order to ensure effective utilization of company's resources to increase its profitability. ALM is conducted primarily at an overview, balance sheet level (**Choundhry, 2011**). The whole subject of assets liabilities management is an area of banking that has undergone drastic change. Strong capital does not guarantee liquidity in all situations, there can be panics and sudden increase in the demand for liquidity (**Paul, 2009)**. The Asset liability management in the recent years has become a tool of integrated analysis of assets and liabilities so as to value not only the interest rate risk but the liquidity risk, solvency risk, firm strategies and asset allocation as well. The landscape of asset liability management for the financial sector is ever changing and the scope of asset liability management activities has widened. Banking institutions have adopted Asset liability management strategies to address key risks such as; interest rate risks, liquidity risk and foreign exchange risk. A sound ALM process integrates strategic, profitability, and net worth planning with risk management. This process often includes an Asset Liability Committee (**ALCO**), which has the central purpose of attaining goals established by the short and long-term strategic plans without taking on undue risk. The other type of risk managed by ALM is the liquidity risk, which refers to the liquidity of markets and the ease with which assets can be translated to cash (**Choudhry, 2011**).

The goals of ALM are to protect shareholders and depositors, maintain sufficient liquidity to cover cash flow requirements and invest idle liquidity profitably, manage the interest rate gap to maximize earnings with risk limits, generate attractive foreign exchange earnings within risk limits, and price products to support asset and liability management and maximize earnings (**Ledgerwood and White, 2006**).

An Asset and Liability committee (ALCO) is often set up to manage exposure of the balance sheet to market risks. It generally consists of members of the management team. Their responsibilities include (a) decisions with regard to the provider's exposure to market risks and supervision of their implementation, (b) development and adoption of medium- and long-term financial and liquidity plans, (c) identification of funding (**Ledgerwood and White, 2006).**

According to (**Ledgerwood and White, 2006),** Liabilities and equity together equal the total amount of assets. Liabilities represent what is owed by the provider and include client deposits (if applicable) and borrowed funds (debt) or payments due but not yet paid. Assets minus liabilities equal to equity or the net worth of a provider. Equity includes retained earnings as well as any invested funds.

Asset Liability Management Core Functions

Banks are a vital part of the economy and the essence of banking is asset liability management (**Choudhry, 2011**). Broadly, Asset liability management essentially comprises of managing the liquidity risk and market risks in an effective and efficient manner. According to **Oracle White Paper (2011**), the core functions of Asset liability management consists of managing maturity gaps and mismatches while managing interest rate risk within the overall mandate prescribed by ALCO.

Research Methodology

- **Population and sample size:** The annual reports of 4 years annual reports (from 2009/10 to 2012/13) for both CBE and DB at corporate level have been selected as sample size for the study.
- **Data collection Techniques:** The secondary data collection was by reviewed written manuals of the banks, directives of banks, statistical data of the Asset and liability management, and published documents, magazines, news papers, Journals/flyers and annual reports of both the banks.
- **Data Analysis Techniques:** The data are analyzed by the financial and statistical techniques to compare the ALM practice in both the banks. Since the number of year's data is limited to four years, the analysis of mean average is done manually.Financial analysis like ratio analysis is done to compare both the banks. Statistical techniques like mean averages of ratios are relevant in this context as it compares the relative figures between both the banks making the comparison more meaningful.

Data Analysis & Interpretations

The analysis and empirical findings of those ratios are presented that provide information about profitability and risk management on ALM practices of both the banks. The asset liability management is undertaken through five parameters such as profitability, interest rate risk, credit risk, liquidity risk and solvency risk. The ratios included in this section are Return on Assets (ROA), Return on Equity (ROE), Return on Investment (ROI), and net Interest Margin (NIM), Liquidity ratio and solvency ratio. The mean average of all the above ratios is taken and line charts are plotted to compare the ALM practices between CBE and DB as a whole at corporate level.

A. **Profitability:** The mean averages of four years of return on assets (ROA), return on equity (ROE) and return on investment(ROI) between CBE and DB have been calculated .

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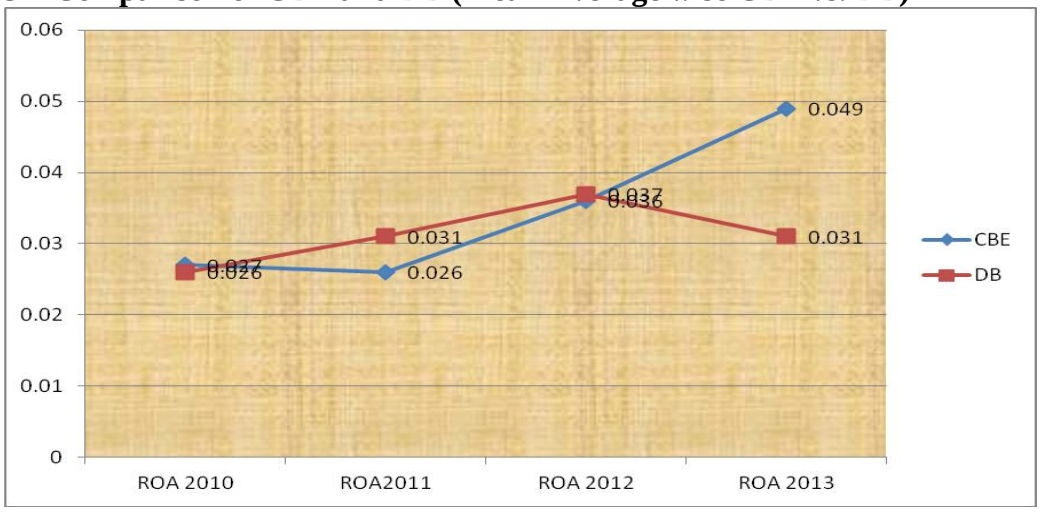
i. Return on Assets(ROA)

Fig 4. 1. ROA Comparison of CBE and DB (Mean Average wise CBE vs. DB)

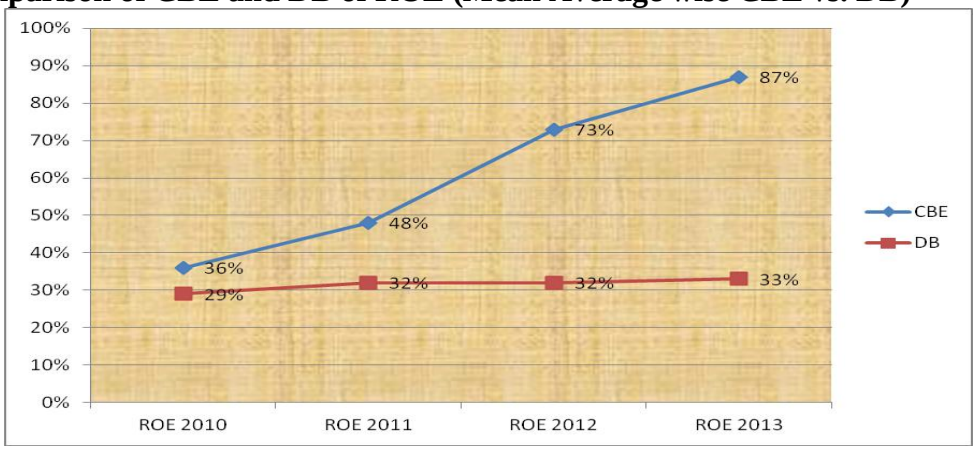


Source: Appendix 1

From the above Fig 4.1, it is observed that the mean average of ROA for both banks, i.e. ROA (CBE) is 0.0345 and ROA (DB) is 0.03125.Therefore 0.0345>0.03125 or ROA of CBE is better than DB ROA. Therefore null hypothesis is rejected.

ii. Return on Equity(ROE)

Fig 4. 2. Comparison of CBE and DB of ROE (Mean Average wise CBE vs. DB)

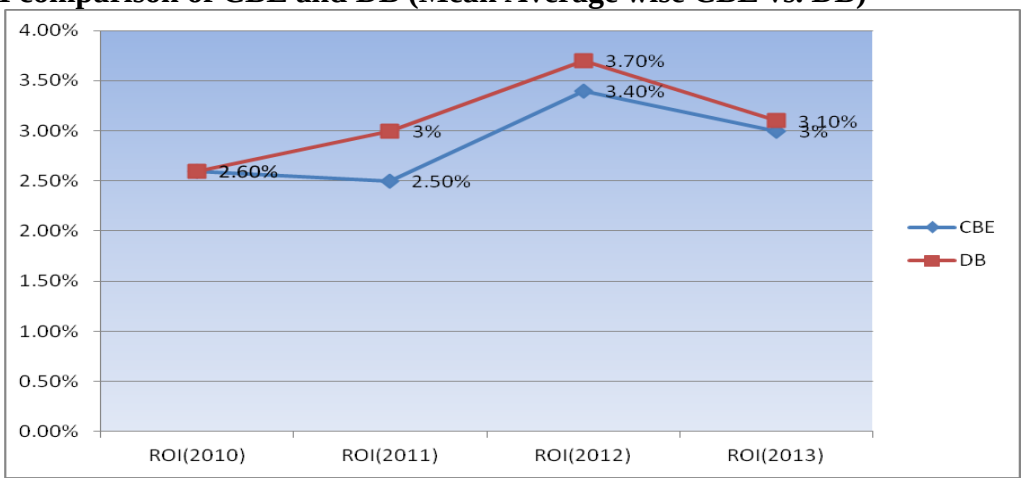


Source: Appendix 1

From the above fig 4.2, it can be observed that mean average ROE of CBE is 61% and mean ROE for DB is 31.5%. So ***ROE*** of CBE is better than DB. Therefore null hypothesis is rejected.

iii. Return on Investment(ROI)

Fig 4.3.ROI comparison of CBE and DB (Mean Average wise CBE vs. DB)



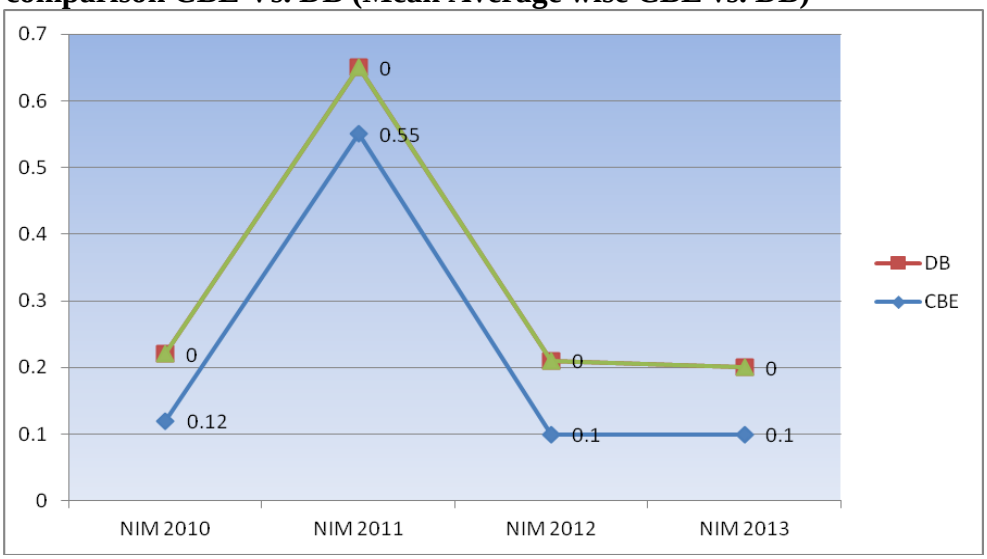
Source: Appendix 1

From the above Fig 4.3 mean average ROI for CBE is 2.875% and the mean average ROI of DB is 3.1%.So, ROI of CBE is not better than DB, therefore Null hypothesis is accepted.

B. **Interest rate Risk:** The risk arising out of interest rate is evaluated by calculating net interest margin.

iv. Net Interest Margin(NIM)

Fig 4.4.NIM comparison CBE Vs. DB (Mean Average wise CBE vs. DB)



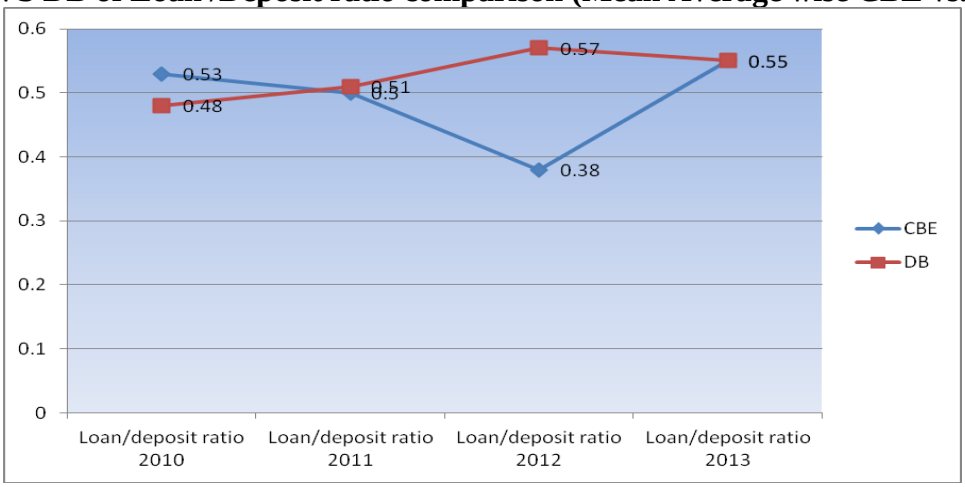
Source: Appendix 1

From the above Fig 4.4, the mean NIM of CBE is 0.2175 and that of DB is 0.1025. Based on this result, CBE is better than DB. Therefore, null hypothesis is rejected.

C. **Credit Risk:** The credit risk is evaluated in terms of loan to deposit ratio at macro level and loan collection to loan disbursement ration at micro level.

v. Loan /Deposit ratio

Fig 4.5.CBE VS DB of Loan /Deposit ratio comparison (Mean Average wise CBE vs. DB)

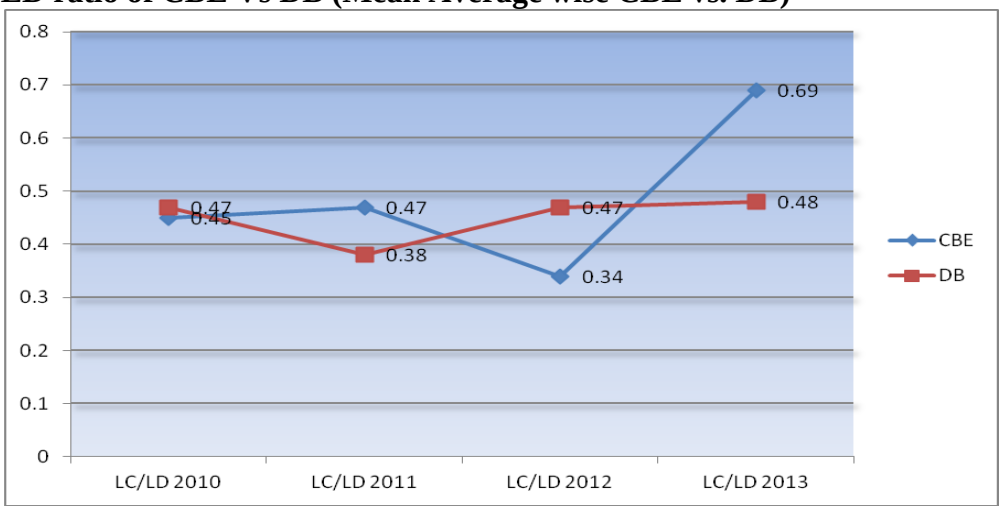


Source: Appendix 1

From the above Fig 4.5, the mean average Loan to deposit ratio of CBE is 0.49 and that of DB is 0.5257. *L/D* ratio of CBE is not better than DB at macro level, therefore null hypothesis is accepted.

vi. Loan Collection/Loan disbursement ratio

Fig 4.6. LC/LD ratio of CBE Vs DB (Mean Average wise CBE vs. DB)



Source: Appendix 1

From the above Fig 4.6, the mean LC/LD ratio of CBE is 0.4875 and that of DB is 0.45. Thus LC/LD ratio of CBE is better than DB. Therefore null hypothesis is rejected.

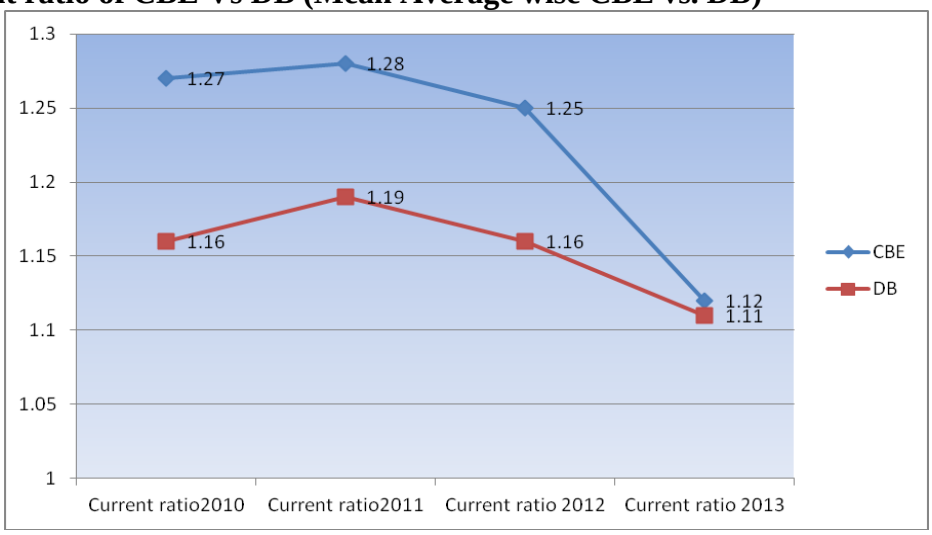
D. **Liquidity Risk:** The risk arising out of liquidity is evaluated in terms of liquidity ratio.

E.

vii. Liquidity Ratio

Current ratio, quick ratio, cash ratio and cash conversion cycle are key measures of liquidity. Among other measures, current ratio is used for this comparison to confirm to 2:1 ratio as the bench mark for the industry.

Fig 4.7.Current ratio of CBE Vs DB (Mean Average wise CBE vs. DB)



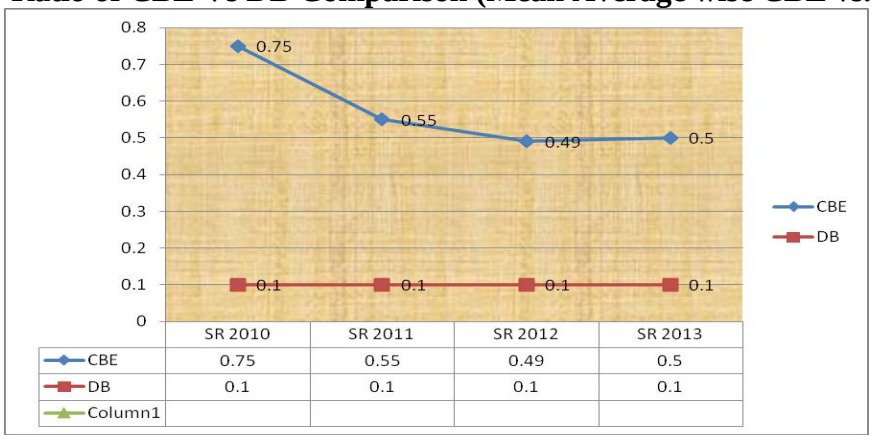
Source: Appendix 1

From the above Fig 4.7, the mean average Current ratio of CBE is 1.23 and that of DB is 1.155. Thus, current ratio of CBE is better than DB, but trend of current ratio in CBE and DB both are in decreasing trends and even the slop of decreasing rate in CBE is stepper than that of DB. The trend shows that the convertibility of liquid assets in to cash is in bad shape in CBE than DB. But so far as comparison of current ratio is concerned, CBE is better than DB. Both the banks do not confirm to the bench mark ratio of 2:1even in all the period. Therefore, null hypothesis is rejected.

F. **Solvency Risk**

viii. Solvency Ratio

Fig4. 8. Solvency Ratio of CBE Vs DB Comparison (Mean Average wise CBE vs. DB)



	SR 2010	SR 2011	SR 2012	SR 2013
CBE	0.75	0.55	0.49	0.5
DB	0.1	0.1	0.1	0.1
Column1				

Source: Appendix 1

From the above Fig 4.8, the mean average solvency ratio of CBE is 0.5725 and that of DB is 0.1 and this shows that the mean average solvency ratio of CBE is better than DB. Therefore, null hypothesis is rejected.

Summary of findings

The summary of findings out of Secondary data analysis is given below:

Profitability

- ROA of CBE is better than DB.
- ROE of CBE is better than DB.
- ROI of CBE is not better than DB.

Interest rate Risk

- NIM ratio of CBE is better than DB.

Credit risk

- Loan to deposit ratio (L/D) of CBE is not better than DB at macro level.
- Loan collection (LC) / Loan disbursement (LD) of CBE is better than DB at micro level.

Liquidity Risk

- Current ratio of CBE is better than DB.
- The current ratio of both the banks does not confirm the bench mark ratio for industry 2:1.

Solvency Risk

- Solvency ratio (*SR)* ratio of CBE is better than DB.

Conclusion

The following conclusion is derived out of the above parameters of ALM practices :

- In general, the higher Return on Asset (ROA), return on equity (ROE), and Return on Investment (ROI) means the better profitability which signifies that the bank has better ALM practices than the bank having lower profitability ratio. In this study CBE has better profitability ratio in terms of ROA and ROE ratio than DB although CBE has lower ROI than DB in managing the profitability.
- The bank with high Net Interest Margin (NIM) means the interest risk is lower than the bank having lower NIM. In this respect, CBE is better than DB in terms of managing better interest rate risk.
- Although the Loan to deposit (L/D) ratio of CBE is not better than DB at macro level, CBE has better LC/LD than DB signifying that there is better practices of loan collection out of the loan disbursed to the borrowers and better loan access to the customers out of the derivative deposit maintained from the savings of the depositors.

- Although both the banks do not confirm to the bench mark ratio, The current ratio(CR) signifies that CBE has better liquidity management ability than DB.
- The solvency ratio (SR) indicates that CBE has better financial sustainability than DB.

Thus the above findings reveal that the assets liability management (ALM) practice of public sector bank Commercial Bank of Ethiopia (CBE) is much better than private sector bank Dashen bank (DB).

Recommendation

- Both banks should have structured and strong Asset Liability Committee (ALCO) at macro level and there should be clear and separate guiding principles about the ALCO.
- In this turbulent world, customer and customer handling are the crucial and decisive factors to grow and not to grow in business, therefore DB should strive to achieve on ROA, ROE,NIC LC/LD ratios and SR to be competitive with other banks
- To retain the actual customers and to attract potential one, both banks should work with standard ALM practices
- CBE should strive for better ROI and on L/D ratio positive impact on ALM practice.
- Both the banks should aim to confirm to the bench mark current ratio 2:1.

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- Mudaye Niway,Vol.3,No.4, June 2011
- Mudaye Niway,Vol.3,No.3, June 2012
- Mudaye Niway,Vol.3,No.4, June 2013
- Birritu,,Vol.12,N0.113,June,2010
- Birritu,,Vol.22,N0.144,June,2011
- Birritu,,Vol.28,N0.157,June,2012

Brochures/flyers

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TABLES

Table 4.1ROA Comparison between CBE and DB(Mean Average wise CBE vs. DB)

Particulars	CBE	DB
ROA 2010	0.027	0.026
ROA 2011	0.026	0.031
ROA 2012	0.036	0.037
ROA 2013	0.049	0.031
Total	**0.138**	**0.125**
Mean average	**0.0345**	**0.03125**

Table 4.2 ROE Comparison betweenCBE and DB

Particulars	CBE	DB
ROE 2010	36%	29%
ROE 2011	48%	32%
ROE 2012	73%	32%
ROE 2013	87%	33%
Mean Average	**61%**	**31.5%**

Table 4.3ROI comparison between CBE and DB

Particulars	CBE	DB
ROI(2010)	2.60%	2.60%
ROI(2011)	2.50%	3%
ROI(2012)	3.40%	3.70%
ROI(2013)	3%	3.10%
Total	**11.50%**	**12.40%**
Mean Average	**2.875%**	**3.1%**

Table 4.4NIM comparison betweenCBE Vs DB

Particulars	CBE	DB
NIM 2010	0.12	0.1

NIM 2011	0.55	0.1
NIM 2012	0.1	0.11
NIM 2013	0.1	0.1
Total	**0.87**	**0.41**
Mean Average	**0.2175**	**0.1025**

Table 4.5Loan /Deposit ratio(L/D) comparisonbetween CBE and DB

Particulars	**CBE**	**DB**
Loan/deposit ratio 2010	0.53	0.48
Loan/deposit ratio 2011	0.5	0.51
Loan/deposit ratio 2012	0.38	0.57
Loan/deposit ratio 2013	0.55	0.55
Total	**1.96**	**2.11**
Mean Average	**0.49**	**0.5257**

Table 4.6Loan Collection /Loan Disbursement ratio comparison between CBEand DB

Particulars	**CBE**	**DB**
LC/LD 2010	0.45	0.47
LC/LD 2011	0.47	0.38
LC/LD 2012	0.34	0.47
LC/LD 2013	0.69	0.48
Total	**1.95**	**1.8**
Mean Average	**0.4875**	**0.45**

Table 4.7Current ratio(CR) comparison between CBE and DB

Particulars	**CBE**	**DB**
Current ratio2010	1.27	1.16
Current ratio2011	1.28	1.19
Current ratio 2012	1.25	1.16
Current ratio 2013	1.12	1.11
Total	**4.92**	**4.62**
Mean Average	**1.23**	**1.155**

Table 4.8Solvency Ratio (SR) comparison between CBE and DB

Particulars	**CBE**	**DB**
SR 2010	0.75	0.1
SR 2011	0.55	0.1
SR 2012	0.49	0.1
SR 2013	0.5	0.1
Total	**2.29**	**0.4**
Mean Average	**0.5725**	**0.1**

Appendix-1

Summary of Balance sheets and Income Statements of CBE and DB from 2010 to 2013

Particulars	**CBE (money are in Millions birr)**					**DB(money are in Millions of birr)**			
	2010	***2011***	***2012***	***2013***		***2010***	***2011***	***2012***	***2013***
Total Income	**4,494.20**	**6,994.20**	**11,573**	**13,727**		**965**	**1,283**	**1,726**	**1,817**

Interest Income(NII)	2,742.80	4,081.50	6,703	9,539		483	604	898	1,021
Non-interest income(NNII)	1,751.40	2,912.70	4,870	4,188		482	679	828	796
Total expense	**1,675.60**	**2,756.10**	**3,642**	**5,166**		**470**	**310**	**402**	**496**
Interest expense	744.1	1,117.20	1,676	2,380		223	261	410	490
Non-interest expense	931.5	1,638.90	1,966	2,786		247	310	496	402
Profit Before tax(PBT)	2,818.60	4,238.10	7,932	8,561		458	630	893	813
Net profit for the year(NPIT)	1,968.30	2,862.90	5,434	5,866		324	451	652	607
Current Asset	73,566.00	113,504.20	157,998	194,234		12,188	14,739	17,258	19,428
Total Assets	74,187.00	114,265.10	158,853	195,443		12,353	14,660	17,520	19,747
Total loans collection	10,233.00	17,580	20,505	38,825.50		2,345	3,009	4,078	4,124
Total loans disbursement	**22,599**	**37,710**	60,874	56,506.64		4,939	7,949	8,663	8,633
Outstanding Loans and advances (including bonds)	22,861.40	74,615.50	122,993	149,006		4,939	6,094	8,521	10,115
Current liability	57,831.00	88,624.00	126,740	170,490		10,510	12,405	14,871	17,495
Total Liabilities	68,632.00	108,003.60	151,154	186,244		11,230	13,263	15,692	17,701
Total Deposits	54,678	85,159.90	120,116	154,438		10,145	11,841	14,066	15,851
Capital and reserve	5,532.70	6,261.50	7,699.90	9,199.40		932	1,152	1,320	1,505

Source: Annual Reports of CBE & DB (2010-2013)