An Analysis of Asset-Liability Management in Banking Sector: A Case Study of Kotak Mahindra Bank

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Abstract The Indian Financial System have changing and growing very fast way. Competitive business world involving both the asset and liabilities with changing interest rates as well as foreign exchange rates has brought pressure on the management of banks to maintain good profitability. Assets and Liability Management (ALM) is a systematic and dynamic process of planning, organizing, coordinating and controlling the assets and liabilities or in the sense management of balance sheet structure in the bank is the biggest opportunity for the Indian banking system. The main objectives of the study is to understand the theoretical background of assets liability management and profile of the bank in general and to assess the performance of profitability position in Kotak Mahindra Bank and also to evaluate the performance of profit and loss account and balance sheet ratios in Kotak Mahindra Bank. In this paper data has been collected from secondary sources from annual reports of Kotak Mahindra Bank from the period of 2013-14 to 2017-18. Finally to analyze the performance of assets and liabilities management has been measured it results the credit deposit ratio, quick ratio, interest expanded to interest earn, other income to total income and interest spreadthis ratios showing increasing trend from one year to another year therefore the performance of assets liability management position is satisfactory and better in Kotak Mahindra Bank.

Key words: Asset Liability Management, risk management, Interest rate risk etc.

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I. Introduction:

Assets Liability Management (Alm) Is Managing Infrastructure Asset To Minimize The Total Cost Of Owning And Operating Them While Continuously Delivering The Service Levels Customer's Desire. It Is A Comprehensive And Structured Approach To The Long Term Management Of Asset. It Refers To A Systematic Process Of Effectively Maintaining, Upgrading And Operating Assets, Combining Engineering Principles With Sound Business Practice And Economic Rational And Providing The Tools To Facilitate A More Organized And Flexible Approach For Making Decision Necessary To Achieve Expectations Of Stake Holders And The Public. It Involves The Management Of Assets, Such As Investments Or Property. Liability Management Is The Flip Side Of The Coin The Management Of Debts, Loans And Mortgages.For Example: Most People And Indeed Companies Have A Mixture Of Asset And Liabilities In Order To Maximize Their Returns Or Wealth.

Asset Liability Management Has Been A Greater Concern For Banks Due To Uncertainties And Volatility In The Market And The Influence Of Market Forces Which Are Very Much Unpredictable Due To The Influence Of Macro Factors Both In Domestic As Well In Global Markets. Technology Advancement, New Product Innovations, Latest Management Practices Brought In New Private Players And Foreign Banks Adding Further Stress On The Functioning Of Public Sector Banks. Under These Compelling Situations, Alm Objective Is To Control Volatility Of Net Interest Income And Net Economic Value Of Respective Banks. The Supplementary Objectives Is To Cover And Control Volatility Of All Target Accounts, Control Of Liquidity Risk And Ensure An Acceptable Balance Between Profitability And Growth Rate. The Banking Sector Needs To Introduce Measures In Order To Compete In A Competitive Environment, So That Risk Can Be Minimized. The Recent Collapse Of The Banking System And The Systemic Risk Is A Clear Testimonial For Inadequate Attention Given For Risk Management. The Success Of Banking System Depends On The Appropriate Asset Liability Management Which In Turn Depends On The Effective Policies, Governance And Risk Management Practices. Alm Is A Tool Used To Address The Risk Faced By Banks Due To Difference Between Assets And Liabilities Either Due To Liquidity Or Changes In The Interest Rates. Therefore This Study Has Been Attempt On Assets Liability Management Of Kotak Mahindra Bank.

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Profile Of The Bank

Kotakmahindra Bank Establishes In 1985, The Kotak Mahindra Group Has Been One Of India's Most Reputed Financial Conglomerates. Today, The Bank Is One Of The Fastest Growing Banks Among The Most Admired Financial Institutions In India. It Has Set New Benchmarks Of Excellence In Niche Industry By Achieving Better Operational Efficiency Across Portfolio Of Unique Product And Services. The Bank Has ₹2.8 Trillion Institution, 44,000 Employees, ₹ 1,73,287 Crores Market Capitalization, 1,60,000 Plus Shareholders, 1,369 Bank Branches And 2,163 Atm's Spread All Over India. The Bank Has An International Presence Through Its Subsidiaries With Offices In London, Dubai, Mauritius And Singapore That Specialize In Providing Services To Overseas Investors Seeking To Inverts Into India.

Ratios In Assets Liability Management:

Alm Leads To The Formulation Of Critical Business Policies, Efficient Allocation Of Capital, And Designing Of Product With Appropriate Pricing Strategies. Theorefore This Study Showcases Those Ratios And Assets Liability Management On The Profitability Position Of The Banks.

The Calculations Are Based Upon The Following Formulas:

- 1. **Interest Spread:** It Is The Difference Between Borrowing And Lending Rates Of Banks In The Financial Year. It Similar To The Profit Margin. Larger Interest Rate Spread The Earning Will Be More And Fluctuation In Interest Rate Spread Decrease Income.
- 2. **Adjusted Cash Margin:** It Is A Profitability Ratio And It Is Also Called As True Margin. Income/Net Sales
- 3. **Net Profit Margin:** It Is The Percentage Of Revenue Left After All Expenses, Tax And Preference Stock Have Been Deducted From Sales.

Net Income After Tax/Revenue

- 4. **Adjusted Return On Net Worth:** It Is The Method Of Valuating The Value Of A Bank By Using Capital Value And Surplus Value.
 - Net Income/ Shareholders Equity
- 5. **Interest Coverage Ratio** Used To Calculate Bank Ability To Meet Its Debt Obligations. Ebit/Total Interest
- 6. **Current Ratio:** The Current Ratio Is A Ratio That Measures A Bank Ability To Pay Short-Term Obligations. The Current Ratio Considers Company Total Current Assets Relative To That Company's Current Total Liabilities. The Standard Ratio Is 2:1.

Current Asset/Current Liabilities

- 7. **Quick Ratio:** The Quick Ratio Is A Financial Ratio, Also Known As Acid Test Ratio Used To Analyses The Company's Liquidity. Quick Ratio Can Be Measure Of Liquidity Of A Bank Than Its Current Ratio. The Standard Ratio Is 1:1.
- 8. **Capital Adequacy Ratio:** Capital Adequacy Ratio Is A Measure Of A Bank's Capital. It Is Expressed As A Percentage Of A Bank's Risk Weighted Credit Exposures.
 - Capital Adequacy Ratio= (Tier One Capital + Tier Two Capital)/Risk Weighted Assets
- 9. **Credit Deposit Ratio:** Credit Deposit Ratio Is The Ratio With Which It Could Be Analyzed Of How Much A Bank Lends Out Of The Deposits It Has Mobilized. It Indicates The Financial Strength Of The Bank.
- 10. **Investment Deposit Ratio:**Investment Deposit Ratio Mainly Provide Information About How The Bank Is Using Their Deposits, For Better Investment.
- 11. **Cash Deposit Ratio**: Cash Deposit Ratio Indicate The Amount Of Money A Bank Should Have As A Percentage Of The Total Amount Of Money Its Customers Have Paid Into The Bank.
- 12. Total Debts To Owner's Fund: It Can Be Measurement Of A Bank's Financial Leverage.

The Concept Of Timing And Rate Of Interest In Alm Is A Key Because Managers Need To Know At What Time The Liability Will Be Paid And To Insure About Availability Of Assets To Pay This Liability To Minimize Risk Factors In Banking Sectors.

II. Review Of Literature:

There Are Many Attempts Made On From Past Decades The Study Of Asset And Liability Management In Indian Banking Sectors.

Dash And Pathak (2011), His Survey Proposed On Linear Model For Asset-Liability Assessment. They Found Public Sector Banks Are Having The Best Asset-Liability Management Positions. In Turn, They Found That Public Sector Banks Had A Strong Short-Term Liquidity Position, But With Lower Profitability, While Private Sector Banks Had A Comfortable Short-Term Liquidity Position, Balancing Profitability.

Sayeed (2012), Attempted To Examine The Impact Of Asset And Liability Management On The Profitability High Profitable And Low Profitable And Private And Public Banks Working In Bangladesh

Applying Statistical Cost Accounting (Sca) Methods And Found High Earning Banks Experience Higher Returns From Their Assets And Lower Returns From Their Liabilities Than The Low Earning Banks

Petraityte (2013),States That "Alm Is A Tool That Combines Several Bank Portfolios - Asset, Liabilities, And The Difference Between The Banks Received And Interest Paid By The Bank And The Main Alm Purpose Is To Connect Different Bank Activities Into A Single Unit, Facilitating Liquidity And Balance Sheet Management".

Kumar, (2014), Studied On Research, The Most Important Factor Which Banks Required To Manage Now Days Is Liquidity. This Study Analyzed Short Term Liquidity And Maturity Gap Of The Banks In Order To Decreases Risk In Banking Sector. This Survey Help Banks To Reduce The Risk Which Is Very Essential For All Financial Institution In India.

Bastray (2015), Studied On Interest Rate Risk Is Analyzed Through The Use Of Gap Analysis In Banking Sector And To Fill The Short Term Liquidity Gap, Bank Resort To Market Borrowing At High Rate Of Interest, This Cause In The Reduction Of Interest Margin And The Profitability Of Bank.

Shetty (2016), Conducted A Study On An Analysis Of Private Banks Exposure To Asset Liability Management. These Paper Attempts To Assess The Liquidity Risk That All Five Private Sector Banks Are Exposed To Spread Over A Period From 2011 To 2015. The Finding From The Study Revealed That Banks Have Been Exposed To Liquidity Risk. The Study Also Indicated That Hdfc Bank And Icici Bank Have Better Alm Framework In Practice.

Tee(2017), Evaluated On Asset Liability Management And The Profitability Of Listed Banks In Ghana. The Purpose Of This Paper Is To Assess The Impact Of Asset And Liability Management On The Profitability Of Listed Banks In Ghana. Multiple Linear Regression Has Been Applied By Taking Roa As The Dependent Variable, And Tas (The Total Asset) And Tlt (The Total Liability) Representing The Asset And Liability Mix Of The Banks.

Statement Of The Problem:

Asset And Liability Management Is A New Technique To Build A Framework For Banking Activities To Perform Better And To Take Best Decisions. Asset And Liabilities Management Become Essential Tools To Evaluate The Risk Facing By The Bank In Maintaining Asset And Liability To Ensure Profitability Of The Business. Assessing The Quality Of Assets In Banking Sector Play A Vital Role In Progress And Development Of Performance Of Banking Sectors, Which May Make A Study Of Alm Is Essential And Significant.

Objectives Of The Study:

The Following Are The Major Objectives Of The Study:

- 1. To Understand The Theoretical Background Of Assets Liability Management;
- 2. To Assess The Profitability Positionof Kotak Mahindra Bank;
- 3. To Evaluate The Performance Of Profit And Loss Account And Balance Sheet Ratios Of The Bank;
- 4. To Analyze The Performance Of Debt Coverage Ratio Of Kotak Mahindra Bank; And
- 5. To Give Recommendations And Suggestions For The Study.

III. Research Methodology:

The Present Study Is Predominantly Exploratory In Nature Hence The Secondary Data Is Mainly Depends On The Financial And Accounting Data Of Kotak Mahindrabank. The Study Covered The Data Collected From The Major Financial Details Such As Balance Sheets, Annual Reports Of The Kotakmahendra Bank For The Period Of 2013-14 To 2017-18. In Addition To The Above Sources, Obtained From Published, Unpublished Sources And Web Data Is Also Used In This Studysome More Information Was Collected From Different Issues Of Economic Survey Published By The Government Of India, Different Journals And Websites. The Multivariate Statistical Technique And Ratio Analysis Was Used To Interpret The Financial Statements And Analyze The Data To Know The Asset And Liability Position Of The Bank.

IV. Data Analysis And Interpretation

1. The Performance Of Profitability Ratios In Kotak Mahindra Bank:

Table No. 1 Represents The Performance Of Profitability Position In Kotak Mahindra Bank. The Profitability Ratios Has Been Classified Four Categories Of Ratios Such Has Interest Spread, Return On Equity, Net Profit Margin, Adjusted Return On Net Worth Etc. The Overall Interest Spread And Return On Equity Was Recorded The Value Of 43.22 And 68.91 Respectively. This Was Followed The Overall Net Profit Margin And Adjusted Return On Net Worth Was Recorded the Value Of 85.25 And 135.14 Respectively. In The Context Of Interest Spreads Shows Increasing Trend, Was Recorded The Value Of 7.64 To 9.82 From 2013-14 To 2017-18. Further The Return On Equity Shows The Increasing Trend, Was Recorded The Value Of 14.00% To 15.28% From 2013-14 To 2017-18 Respectively. The Net Profit Margin Shows The Decreasing Trend, Was

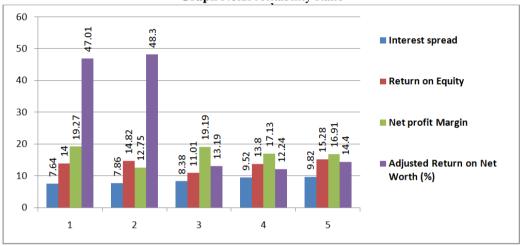
Recorded The Value Of 19.27 To 16.91 From 2013-14 To 2017-18 Respectively. Lastly The Adjusted Return On Net Worthshows The Decreasing Trend, Was Recorded The Value Of 47.01 To 14.40 From 2013-14 To 2017-18 respectively

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Year	Interest Spread	Return On Equity	Net Profit Margin	Adjusted Return On Net Worth (%)
2013-14	7.64	14.00	19.27	47.01
2014-15	7.86	14.82	12.75	48.30
2015-16	8.38	11.01	19.19	13.19
2016-17	9.52	13.80	17.13	12.24
2017-18	9.82	15.28	16.91	14.40
Total	43.22	68.91	85.25	135.14

Source: Annual Reports Of Kotak Mahindra Bank.

Graph No.1Profitability Ratio



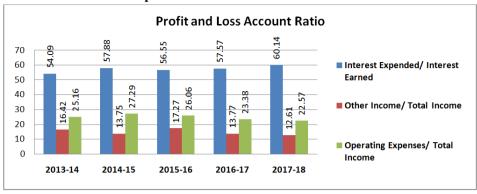
2. The Performance Of Profit And Loss Account Ratios Of Kotak Mahindra Bank:

Table No. 2 Indicates The Performance Of Profit And Loss Account Ratios Of Kotak Mahindra Bank. The Profit And Loss Account Ratios Has Been Classified Three Categories Of Ratios Such As, Interest Expended To Interest Earned, Other Income To Total Income, Operating Expenses To Total Income Etc. The Overall Interest Expended To Interest Earned Ratio And Other Income To Total Income And Also Operating Expenses To Total Income, Was Recorded The Value Of 286,23, 73.82 And 124.46 Respectively. In The Context Of Interest Expended To Interest Earned Ratio Shows Increasing Trend, Was Recorded The Value Of 54.09 To 60.14 From 2013-14 To 2017-18 Respectively. Further The Other Income To Total Income Shows The Decreasing Trend, Was Recorded The Value Of 16.42 To 12.61 From 2013-14 To 2017-18 Respectively. The Operating Expenses To Total Incomeshows The Decreasing Trendwas Recorded The Value Of 25.16 To 22.57 From 2013-14 To 2017-18 Respectively. It Indicates Bank Is Not Quite Safe And It Does Indicate Inefficiency.

Table No.2 Profit And Loss Account Ratio

Year	Interest Expended To	Other Income To Total	Operating Expenses To Total
	Interest Earned	Income	Income
2013-14	54.09	16.42	25.16
2014-15	57.88	13.75	27.29
2015-16	56.55	17.27	26.06
2016-17	57.57	13.77	23.38
2017-18	60.14	12.61	22.57
Total	286.23	73.82	124.46

Source: Annual Reports Of Kotak Mahindra Bank.



Graph No.2 Profit And Loss Account Ratio

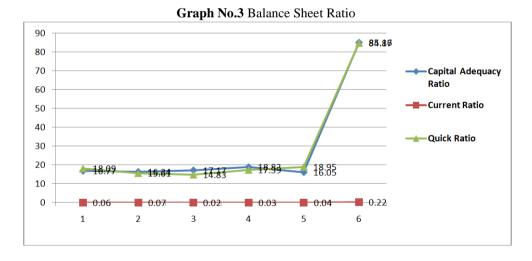
3. The Performance Of Balance Sheet Ratios Of Kotak Mahindra Bank:

Table No. 3 Depicts That Performance Of Balance Sheet Ratios Of Kotak Mahindra Bank. The Balance Sheet Ratio Has Been Measured Three Categories Of Ratios Such As, Capital Adequacy Ratio, Current Ratio And Quick Ratio Etc. The Overall Capital Adequacy Ratio And Current Ratio And Also Quick Ratio, Was Recorded The Value Of 85.16, 0.22 And 84.87 Respectively. In The Context Of Capital Adequacy Ratio Shows The Decreasing Trend, Was Recorded The Value Of 16.77 To 16.05 From 2013-14 To 2017-18 Respectively. Further The Current Ratio Shows, The Decreasing Trend, Was Recorded The Value Of 0.06 To 0.04 From 2013-14 To 2017-18 Respectively. The Quick Ratio Shows, The Increasing Trendwas Recorded The Value Of 18.09 To 18.95 From 2013-14 To 2017-18 Respectively.

Capital Adequacy Ratio **Current Ratio** Quick Ratio Year 18.09 2013-14 16.77 0.06 2014-15 16.34 0.07 15.61 2015-16 17.17 0.02 14.83 2016-17 18.83 0.03 17.39 2017-18 16.05 0.04 18.95 Total 85.16 0.22 84.87

Table No.3 Balance Sheet Ratio

Source: Annual Reports Of Kotak Mahindra Bank.



4. The Performance Of Debt Coverage Ratio In Kotak Mahindra Bank:

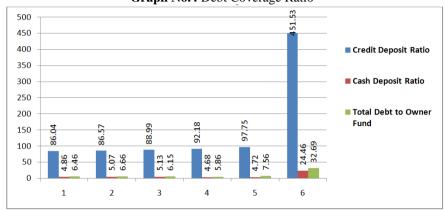
Table No. 4 Depicts That Performance Of Debt Coverage Ratios Of Kotak Mahindra Bank. The Debt Coverage Ratio Has Been Measured Three Categories Of Ratios Such As, Credit Deposit Ratio, Cash Deposit Ratio And Total Debt To Owner Fund. The Overall Credit Deposit Ratio And Cash Deposit Ratio And Also Total Debt To Owner Fund, Was Recorded The Value Of 451.83, 24.46 And 32.69 Respectively. In The Context Of Credit Deposit Ratio, Shows The Increasing Trend, Was Recorded The Value Of 86.04 To 97.75 From 2013-14 To 2017-18 Respectively. Further Thecash Deposit Ratio Shows, The Decreasing Trend, Was Recorded The Value Of 4.86 To 4.72 From 2013-14 To 2017-18 Respectively. The Total Debt To Owner Fund Shows, The Increasing Trendwas Recorded The Value Of 6.46 To 7.56 From 2013-14 To 2017-18 Respectively.

Table No.4 Debt Coverage Ratio

Year	Credit Deposit Ratio	Cash Deposit Ratio	Total Debt To Owner Fund
2013-14	86.04	4.86	6.46
2014-15	86.57	5.07	6.66
2015-16	88.99	5.13	6.15
2016-17	92.18	4.68	5.86
2017-18	97.75	4.72	7.56
Total	451.53	24.46	32.69

Source: Annual Reports Of Kotak Mahindra Bank.

Graph No.4 Debt Coverage Ratio



V. Findings Of The Study:

The Following Are The Major Findings Of The Study:.

- ➤ The Overall Interest Spread And Return On Equity Was Recorded The Value Of 43.22 And 68.91 Respectively.
- ➤ The Overall Net Profit Margin And Adjusted Return On Net Worth Was Recorded The Value Of 85.25 And 135.14 Respectively.
- ➤ In The Context Of Interest Spreads Shows Increasing Trend, Was Recorded The Value Of 7.64 To 9.82 From 2013-14 To 2017-18.
- ➤ The Overall Interest Expended To Interest Earned Ratio And Other Income To Total Income And Also Operating Expenses To Total Income, Was Recorded The Value Of 286.23, 73.82 And 124.46 Respectively.
- ➤ In The Context Of Interest Expended To Interest Earned Ratio Shows Increasing Trend, Was Recorded The Value Of 54.09 To 60.14 From 2013-14 To 2017-18 Respectively.
- Further The Other Income To Total Income Shows The Decreasing Trend, Was Recorded The Value Of 16.42 To 12.61 From 2013-14 To 2017-18 Respectively.
- ➤ The Overall Capital Adequacy Ratio And Current Ratio And Also Quick Ratio, Was Recorded The Value Of 85.16, 0.22 And 84.87 Respectively. I
- ➤ In The Context Of Capital Adequacy Ratio Shows The Decreasing Trend, Was Recorded The Value Of 16.77 To 16.05 From 2013-14 To 2017-18 Respectively.
- ➤ Further The Current Ratio Shows, The Decreasing Trend, Was Recorded The Value Of 0.06 To 0.04 From 2013-14 To 2017-18 Respectively.
- ➤ The Overall Credit Deposit Ratio And Cash Deposit Ratio And Also Total Debt To Owner Fund, Was Recorded The Value Of 451.83, 24.46 And 32.69 Respectively.
- ➤ In The Context Of Credit Deposit Ratio, Shows The Increasing Trend, Was Recorded The Value Of 86.04 To 97.75 From 2013-14 To 2017-18 Respectively.
- Further The Cash Deposit Ratio Shows, The Decreasing Trend, Was Recorded The Value Of 4.86 To 4.72 From 2013-14 To 2017-18 Respectively.

VI. Suggestions For The Study:

The Following Are The Major Suggestions For The Study:

- > The Bank Should Maintain Consistency In Net Profit Margin, Other Income To Total Income, Loans Funds Percentage And Cash Reserve Ratio.
- > The Bank Has To Increases Revenue Earnings, Operating Expenses, And Current Ratio Because The Ratio Indicates Decreases Every Year.

- ➤ Bank Should Be Taken Better Management Towards Current Assets And Current Liabilities Which Indicating Week Positive Correlation.
- > The Study Suggests Much Scope For Banks To Improve Profitability By Monitoring And Reducing Short Term Liquidity.
- ➤ To Fill The Short Term Liquidity Gap, Banks Resort To Market Borrowings At Higher Rate Of Interest Which Reduces Interest Margin And Profitability Of Banks.

VII. Conclusion:

Asset-Liability Management Play Very Important Role In Management And Planning Of Assets And Liabilities Of Banks, Against The Risk Exposed Due To The Changing Environment In The Bank Business. Banking Regulators Require A Minimum Capital Adequacy, Net Worth And Capital Deposit Ratio Thus, Banks Today Need To Match Their Assets And Liabilities And At The Same Time Balancing Their Objectives Of Profitability, Liquidity And Risk. This Attempt Was To Evaluate And Matching Assets And Liability Of The Kotakmahendra Bank. After Calculating The Various Ratios And Critically Analyzing Them, It Is Evident That Bank Performing Satisfactorily In Terms Of Credit Deposit Ratio, Quick Ratio, Interest Expanded To Interest Earn, Other Income To Total Income And Interest Spreadbecause This Ratios Showing Increasing Trend From One Year To Another Year. Thefore Its Needed To Improve And Maintain Consistency In Net Profit Margin And Total Income Of Kotak Mahindra Bank.

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