# ASSET LIABILITY MANAGEMENT AT HDFC BANK USING GAP MODEL

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***ABSTRACT***

*Even though it can be challenging to quantify, market risk—the risk that a sudden shift in market prices could have an impact on profits or capital—is still very significant. Gap Analysis is one technique for determining how exposed a bank is to interest rate fluctuations. Gap analysis has mainly lost its appeal. The most effective use of gap analysis today is as a theoretical tool for explaining problems relating to interest rate and liquidity risk.*

*Keywords; GAP Analysis, Ratio Analysis, Interest Earned, Interest Expended*

## INTRODUCTION

The key that unlocks both production and price possibilities is finance. Financial performance is essential for the formulation and application of financial decisions. It is a way to evaluate how well a company uses its assets. Primary market strategy to boost sales and evaluate a company's total financial health for a predetermined period of time. Liquidity, solvency, and profitability ratios are only a few of the measurements used to gauge the company's financial success. One of the major financial organisations in the private sector, HDFC, through this process to better define its long- and short-term goals. To analyse the ratio analysis in this study, we have used data in a number of different ways. This information is used to determine the competitors' market position.

Asset-liability management involves regulating the use of assets and cash flows to reduce the likelihood that a company may lose money as a result of a liability's late payment. Earnings of a firm can be increased by properly managing assets and liabilities. By carefully aligning assets and liabilities, financial organisations can increase efficiency and profitability while reducing risk. Asset allocation and management (ALM) deals with how assets, equity, interest rate, and credit risk are allocated and managed, including risk overlays, as well as how corporate-wide tools are calibrated within these risk frameworks for optimum performance and management in the local regulatory and capital environment.

### Objectives of the Study

1. To explore the difference between rate sensitive assets and rate sensitive liabilities.
2. To analyse the relation between the asset liability management among selected banks.

**REVIEW OF LITERATURE**

| SL NO | Author and Journal Name | LITERATURE REVIEW |
|---|---|---|
| 1 | (Srividhya, 2019) in his paper "An Analysis OF Asset-Liability Management in Banking Sector with Special Reference of HDFC Bank" | Aims to understand fully about the theoretical background of Asset Liability Management To assess the complete profitability position of HDFC Bank also to give proper recommendations and valuable suggestions for the study |
| 2 | (SINGH & RIYA, 2018) in their paper "A Study on Asset Liability Management of HDFC BANK AND BOB" | Presents the situation of interest rate risk in BOB and HDFC bank and evaluates the level of interest rate risk using Gap Analysis in BOB and HDFC Bank, Assets-Liability Mismatch and Gap analysis have been done to measure interest rate risk based on the analysis it is found both the banks either it is private sector or public sector have been facing interest rate risk during the research period of the study. |
| 3 | (DrAnjuGarg, 2022) in their paper "Gap Analysis: Asset and Liability Management at a Bank" | Although market risk, or the possibility that a rapid shift in market prices could have an impact on earnings or capital, can be challenging to quantify, it doesn't lessen its significance. Gap Analysis is one method of determining how exposed a bank is to shifting interest rates. Gap Analysis is no longer widely used. Today, the theoretical use of gap analysis in communicating interest rate and liquidity risk-related issues is its greatest strength |
| 4 | (MathivannanSPrabhakarDr., 2017) in their paper "Asset Liability Management – A Comparative Study On Public Private And Foreign Sector Commercial Bank In India | A comprehensive and dynamic framework for assessing, monitoring, and controlling a bank's market risk is called asset-liability management (ALM). In order to maximise net interest income, the balance sheet's asset-liability structure must be managed within the banks' general (past and future) appetite for risk. |
| 5 | (VeenaK.PK.M.MsPragathiDr., 2018) in their paper "An Analysis of Asset-Liability Management in Banking Sector: A Case Study of Kotak Mahindra Bank**"** | The Indian financial system is evolving and expanding quickly. World of business is competitive combining fluctuating interest rates and currency exchange rates for both the assets and liabilities pressured bank management to maintain high profitability. |

**III. DATA AND METHODOLOGY**

The present study is a post hoc analytical study as it is based on the past data. The source of data is entirely secondary in nature. The data is drawn from the annual reports of the selected companies for the period of 11 years. The tool used for analyzing the data is correlation and mathematical difference in the amount of interest income an interest expenditure. The correlation analysis is done with the help of excel.

Gap analysis, which takes longer and has fewer applications, analyses exposure to a wider variety of term structures movements. Regulatory regulations on financial risks and organisational processes that are influencing the banking industry have increased the demand for precise and fast information on the capacity to deliver value in every business line.

**DATA ANALYSIS AND FINDINGS**

**Table 1: GAP in HDFC bank for 11 years**

| Year | Interest earned | Interest expense | GAP = Interest earned – Interest Expense |
|---|---|---|---|
| 31/03/2012 | 27,28,63,517 | 14,98,95,780 | 12,29,67,737 |
| 31/03/2013 | 35,06,48,736 | 19,25,37,521 | 15,81,11,215 |
| 31/03/2014 | 41,13,55,336 | 22,65,28,999 | 18,48,26,337 |
| 31/03/2015 | 48,46,99,044 | 26,07,42,352 | 22,39,56,692 |
| 31/03/2016 | 60,22,14,451 | 32,62,99,330 | 27,59,15,121 |
| 31/03/2017 | 69,30,59,578 | 36,16,37,334 | 33,13,92,244 |
| 31/03/2018 | 80,24,13,550 | 40,14,64,913 | 40,09,48,637 |
| 31/03/2019 | 98,97,20,505, | 50,72,88,255 | 48,24,32,250 |
| 31/03/2020 | 1,14,81,26,509 | 58,62,63,979 | 56,18,62,530 |
| 31/03/2021 | 1,20,85,82,265 | 55,97,86,560 | 64,87,95,705 |
| 31/03/2022 | 1,27,75,31,191 | 55,74,35,282 | 70,00,95,909 |

The annual report of the HDFC Bank for the years 2017 through 2022 reveals a generally higher trend in interest earnings as well as an annual widening of the gap (difference between interest earned and interest expended). When it hits 72,00,95,909, the gap widens to its greatest extent in 2022. This shows that the bank's interest earnings are expanding more quickly than its interest costs. The table demonstrates that every year, the company consistently made more money through interest than it spent. The difference between interest generated and spent has grown over time, which suggests that the company's net interest income has grown with time. Due to the interest income, the corporation has been turning a growing profit over the years.

**Table 1: GAP in ICICI bank for 11 years**

| Year | Interest earned | Interest expense | GAP = Interest earned – Interest Expense |
|---|---|---|---|
| 31/03/2012 | 37,99,48,587 | 25,01,32,455 | 12,98,16,132 |
| 31/03/2013 | 44,88,45,894 | 28,28,54,093 | 16,59,91,801 |
| 31/03/2014 | 49,47,92,476 | 29,71,06,119 | 19,76,86,357 |
| 31/03/2015 | 54,96,39,961 | 32,31,81,538 | 22,64,58,423 |
| 31/03/2016 | 59,29,37,057 | 33,99,64,746 | 25,29,72,311 |
| 31/03/2017 | 60,93,99,802 | 34,83,58,328 | 26,10,41,474 |
| 31/03/2018 | 62,16,23,505 | 34,26,20,468 | 27,90,03,037 |
| 31/03/2019 | 71,98,16,540 | 39,17,75,414 | 32,80,41,126 |
| 31/03/2020 | 84,83,57,730 | 44,66,55,222 | 40,17,02,508 |
| 31/03/2021 | 89,16,26,638 | 42,65,90,874 | 46,50,35,764 |
| 31/03/2022 | 42,65,90,874 | 38,90,84,507 | 3,75,06,367 |

The ICICI Bank's annual report for the years 2012 to 2022 reveals a steady rise in interest income and a matching rise in the difference between interest income and interest outlays. A difference of 12,98,16,132 was created in 2012 between the bank's interest income of 37,99,48,587 and its expenditures of 25,01,32,455. By 2022, the bank had a 46,50,35,764 deficit after earning 89,16,26,638 in interest and spending 42,65,90,874. This shows that the bank's efforts to increase revenue through collecting interest on loans and investments have been successful. It's important to note that the difference between interest generated and expended in 2022 is considerably smaller than it was in prior years, suggesting that the bank may have scaled back on its lending and investing activities.

***Table 3: Correlation Analysis***

| | HDFC | ICICI |
|---|---|---|
| **HDFC** | 1 | 0.2386 |
| **ICICI** | 0.2386 | 1 |

***Interpretation***

According to the individual who gave the table, the correlation findings show that there is little association between the values of HDFC and ICICI because the correlation coefficient value is less than 0.05.A weak or absent link between two variables is often indicated by a correlation coefficient of less than 0.05. A correlation value of less than 0.05 is frequently used as the cut off for assessing statistical significance in statistical significance testing. This indicates that if the correlation coefficient is less than 0.05, the relationship between the two variables is thought to be weak or absent and is not deemed statistically significant.

**CONCLUSION**

The main conclusions and takeaways from the study of the correlation between two or more variables should be enumerated in the conclusion to the correlation results. The existence, strength, and direction of a relationship between the variables can all be ascertained using a correlation study. Every bank is attempting to maximise yield and minimise their exposure to risk since it has become the primary emphasis in the banking sector. The banks must cooperate effectively with in order to improve their performance with reference to Asset Liability Management. For every bank, managing the assets and liabilities is essential.

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