

A Comparative Study of Earnings Quality of Selected Five Commercial Private Banks in India

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ABSTRACT

Banks have a significant role in the economic growth of every country, especially private banks. Therefore, the present study concerns the earnings quality of the five critical private sector banks based on market capitalisation. Financial ratios are used for the statistical analysis of a bank's performance. Earning Quality has been analysed to measure the profitability status of the selected private banks. This model includes parameters like net Interest Margin, net Profit to Total Income Ratio, Net Profit to Total Assets Ratio, Operating Profit to Total Assets Ratio, Interest Income to Total Income Ratio, and Growth in Profit. The selected banks' data for 2019 to 2023 was selected. Private banks like HDFC BANK, ICICI BANK, KOTAK MAHINDRA BANK, AXIS BANK, and INDUSIND BANK have been chosen for the analysis. Results indicate that all the selected ratios impact the Earning Quality of Private commercial banks.

Keywords: Financial Soundness, Earning Quality, Ratio analysis, Private banks

INTRODUCTION:

"Banking is transforming. What a bank will be like in 2030 is going to be significantly different from what a bank has been like for the past few hundred years. A healthy Banking system is one of the vital parts of a nation's foundation."- By Hendrich Vanlon Smith Jr, CEO of Mayflower-Plymouth.

The then Narasimha Rao government liberalized the economy in the early 1990s, granting licenses to a few private banks known as the New Generation technology-savvy banks. These banks included UTI Bank, ICICI Bank, and HDFC Bank, the first of these new-generation banks to be set up (now known as Axis Bank). With this move and India's rapid economic growth, the banking sector has seen rapid development, emphasizing all three sectors of banks, including government, private, and foreign banks. There has been a proposed relaxation of the Foreign Direct Investment norms for Indian banking, where all Foreign Investors in banks may be given voting rights that may exceed the present 10% cap. It has gone up to 49% with some restrictions, which is the next step for Indian banking. The new policy shook the Indian banking sector to its core. Until now, bankers have been used to the 4-6-4 method (Borrow at 4%; Lend at 6%; Go home at 4) of functioning. The new wave ushered in a modern outlook and tech-savvy methods of working for traditional banks. All this led to the retail boom in India. People not only demanded more from their banks but also received more. Banking in India is now mature in terms of supply, product range, and reach in rural India through rural and remote banking.

The performance of the Banks is a primary concern for any country's trade and development. It has to manage large volume transactions. Industry-related stakeholders, investors, stockholders, and other policymakers must know about a bank's financial performance when granting credits, loans, and investments. RBI and the government crossed their hands to find ways to implement international capital norms fully. In this scenario, it is essential to analyze the financial status of banks by examining the ratio analysis, which is the most logical way to examine the present and predict the future position of any bank.

Moreover, it determines the ability of the bank to meet its current obligations, operating efficiency, and performance. These ratios help the decision-making process and emphasize the internal status of banks and their performance in the market compared to other banks. A firm can analyze its financial performance regarding profitability and viability by

establishing a secure relationship between the variables. The present study focuses on measuring the performance of five large private sector banks, namely HDFC Bank, ICICI Bank, KOTAK Mahindra Bank, IndusInd Bank, and AXIS Bank, through extensive use of key financial ratios to determine earning capability.

- **HDFC Bank:** HDFC Bank remains India's largest private sector bank in terms of assets and market capitalization, thanks to its merger with HDFC Ltd. The bank's net worth is significantly high, given its dominant position in the market and comprehensive range of financial services.
- **ICICI Bank:** As India's second-largest private sector bank, ICICI Bank has a solid domestic and international financial presence. Its net worth reflects its substantial assets, technological innovation, and extensive branch network.
- **Axis Bank:** Axis Bank is the third-largest private sector bank in market capitalization. It is known for its focus on digital banking and financial services catering to corporates, SMEs, and retail clients.
- **Kotak Mahindra Bank:** Kotak Mahindra Bank, known for its conservative lending practices and strong financials, is one of the top private banks. Its net worth is bolstered by its diversified financial services and wealth management offerings.
- **IndusInd Bank:** As one of the leading new-generation banks in India, IndusInd Bank's net worth reflects its robust retail and corporate banking services, coupled with a growing presence in the financial sector. These banks have demonstrated robust economic performance, reflected in their market capitalization and net worth, making them key players in the Indian banking industry.

Earnings capability: Earnings quality represents the quality of a bank's profitability and ability to maintain quality and earn consistently. Earning efficiency shows the earning trends of banks and their prospects. A consistent profit builds public confidence in the bank, absorbs loan losses, and provides sufficient provisions. Earnings quality is a significant indicator of a bank's financial health, reflecting the ability of earnings to give an accurate picture of a bank's performance. High-quality earnings are consistent, sustainable, and not heavily influenced by non-recurring items or aggressive accounting practices. Earnings quality is defined as the degree to which reported income reflects the trustworthy earnings of a bank. According to Dechow, Ge, and Schrand (2010), earnings quality is high when reported earnings accurately represent a firm's financial performance, free from distortion by management's use of discretion in financial reporting. In the context of Indian private sector banks, high earnings quality is crucial for stakeholders, including investors, regulators, and customers, to make informed decisions. Several methodologies have been employed to assess earnings quality, including accrual-based measures, earnings persistence, earnings smoothness, and the quality of earnings components. Studies by Gupta and Sharma (2018) have used discretionary accruals as a proxy for earnings quality, arguing that lower discretionary accruals indicate higher earnings quality. Similarly, Agarwal and Kothari (2019) have examined earnings persistence and smoothness, suggesting that consistent earnings over time reflect higher earnings quality.

REVIEW OF LITERATURE:-

This literature review focuses on the earnings quality of selected commercial private banks in India. Earnings quality is a critical aspect of financial analysis, reflecting the sustainability and reliability of a bank's earnings over time. This review synthesizes key research findings, identifies methodologies used in assessing earnings quality, and highlights the factors influencing the earnings quality of Indian private sector banks. Earnings quality is a critical aspect of financial reporting that reflects the reliability and sustainability of earnings figures reported by firms. Numerous studies have focused on different dimensions of earnings quality, particularly within the banking sector, characterized by its unique financial structures and regulatory environments. **Earnings Quality: Definition and Importance:** Earnings quality can be defined as the extent to which reported earnings represent the actual economic performance of a firm, free from distortion by accounting practices that may manipulate the financial statements. Jones (1991) developed a model to measure discretionary accruals, which are often used by management to alter earnings. With its complexity in asset valuation and off-balance-sheet items, the banking sector is particularly vulnerable to such practices (Beneish, 1999). **Methodological Approaches:** The measurement of earnings quality often employs different models and indices, such as accrual-based and cash flow-based models, to evaluate the sustainability of earnings. The Modified Jones Model, as applied in various studies, has effectively isolated discretionary accruals amidst different regulatory environments (Richardson et al., 2005).

Zhang (2008) emphasized that high-quality earnings are crucial for attracting investment, as they provide investors with a clearer picture of a company's financial health and future performance potential. Factors Affecting Earnings Quality in Banking: The quality of a bank's earnings is mainly influenced by various factors, including risk management practices, regulatory compliance, and management behavior. Trieschmann et al. (2009) indicated that the transparency of a bank's financial reporting, coupled with rigorous risk management, enhances the confidence of stakeholders, thereby improving perceived earnings quality. A comparative study by Othman and Ameer (2010) across banks in the Middle East indicated significant variability in earnings quality based on governance practices and regional economic conditions. Moreover, adopting the International Financial Reporting Standards (IFRS) has improved banks' financial reporting quality (HassabElnaby et al., 2013). Earnings Management in the Banking Sector: Earnings management, as an attempt by management to manipulate reported earnings to meet specific objectives, poses a significant challenge to earnings quality. Indian banks are no exception, and studies have shown that factors such as loan provisioning and asset reconciling practices play an essential role in shaping earnings outcomes (Cai et al., 2019). In the Indian context, Gupta and Gupta (2020) demonstrated that banks adhering to stricter regulatory frameworks tend to have higher earnings quality, suggesting limited scope for earnings manipulation. Comparative Studies on Earnings Quality: Several comparative studies have been conducted on different sectors and countries, specifically banking institutions in developing economies. In the Indian scenario, a study by Kumar and Verma (2021) highlighted the differences in earnings quality among state-owned and private sector banks, noting that private banks generally report higher earnings quality than their public counterparts, primarily due to better governance and operational efficiency. Specifically, applying these models in India has revealed significant challenges in isolating genuine economic performance from accounting choices (Sahu & Sahu, 2022). Conclusion: The literature surrounding earnings quality, particularly in the banking sector, highlights the complexity and variability influenced by numerous external and internal factors. In the context of India, a comparative analysis of selected private banks will shed light on the determinants of earnings quality, providing valuable insights for investors, regulators, and policymakers. Such research is pivotal in understanding the landscape of private banking in India and offers implications for improving financial reporting practices in the sector.

SCOPE OF THE STUDY- This study aims to analyze the earning quality of five private banks comparatively from 2019 to 2023. Studying the earning quality of private banks like HDFC Bank, ICICI Bank, Kotak Mahindra Bank, AXIS Bank, and IndusInd Bank through a comparative lens serves several essential purposes. Understanding a bank's position in terms of earning quality can assist in evaluating its market competitiveness and ability to sustain high-quality earnings continually. We may compare HDFC Bank, ICICI Bank, Kotak Mahindra Bank, Axis Bank, and IndusInd Bank to determine which industry has superior overall performance indicators, profitability, and earning quality management procedures. Implications for policy: The study's conclusions might substantially influence government rules and banking law. Whether individual or institutional, investors see banks' strong profit-making capabilities as a critical factor in determining their earning potential. Investors can impact their investing strategies by evaluating the comparative profitability of several banks and selecting the one with higher performance. Business benchmarking is employed in the banking sector to assess performance through comparative research. Banks can utilize the data to evaluate their performance compared to their counterparts in comparable or unrelated industries. This benchmarking approach aids in directing strategic planning and performance improvement activities by identifying areas of strength and weakness. Enhanced openness and accountability: Monitoring banks' earnings quality fosters transparency and accountability, allowing the financial industry to make more informed decisions. Comparative studies in banking and finance play a crucial role in advancing academic research and fostering knowledge development. We may expand upon previous research, develop novel approaches, and get fresh insights into the aspects that enhance the financial performance of the chosen five private banks.

OBJECTIVES OF THE STUDY

The present study is an attempt to achieve the following objectives:

- To study the earning quality of central Private Sector Banks.
- To make a comparative analysis of central Private Sector banks by using the Composite Ranking Method.
- To suggest various measures to improve the performance of the banks in the future based on the study results.

RESEARCH METHODOLOGY:

Data Collection: The study is based on secondary data collected from various published sources like magazines, banks' sites, economic surveys of the government in India, reports from RBI, and internal reports from 2019 to 2023.

Sample Design: The study has taken into consideration the following five central private sector banks according to their market capitalization; the top five private banks in India, according to their market capitalization, are:

- ❖ HDFC Bank - Continues to lead with its extensive network and diverse offerings.
- ❖ ICICI Bank - Known for its strong financial performance and broad range of products.
- ❖ Kotak Mahindra Bank is distinguished by its unique financial solutions and customer base growth.
- ❖ Axis Bank - Offers robust retail banking products and services.
- ❖ IndusInd Bank- Maintains a significant presence with a diverse portfolio and growing customer base.

These banks are recognized for their performance, customer satisfaction, financial stability, and market capitalization.

HYPOTHESIS FRAMED FOR EARNING CAPABILITY RATIOS USED IN THE STUDY:

- ❖ **H₀:** There is no significant difference between the Net Interest Margin of all the banks for each one of the banks.
- ❖ **H₀:** There is no significant difference between the Net Profit to Total Income Ratio of all the banks for each one of the banks.
- ❖ **H₀:** There is no significant difference between the Net Profit to Total Assets Ratio of all the banks for each one of the banks.
- ❖ **H₀:** There is no significant difference between the Operating profits to Total Assets Ratio of all the banks for each one of the banks.
- ❖ **H₀:** There is no significant difference between the Interest Income to Total Income Ratio of all the banks for each one of the banks.
- ❖ **H₀:** There is no significant difference between the Growth in Profit of all the banks for each one of the banks.

STATISTICAL TOOLS USED:

- ❖ The mean has been computed to determine the average Earning capability ratios and the chosen institutions' performance stability.
- ❖ When comparing the selected banks' financial performance based on their earning quality ratios, the One-Way ANOVA is employed to ascertain if the banks differ substantially.

LIMITATIONS:

The foundation of the entire investigation is based on the secondary data. The findings were derived from an analysis of information gathered during the previous five years, from 2018–19 to 2022–23. There are restrictions on the statistical notion that has been used. The primary emphasis of this investigation is the earning quality of the selected banks. The researcher might conduct further study on this issue utilizing data spanning a minimum of 10 years, various statistical approaches, and bank performance measures.

DATA ANALYSIS AND INTERPRETATION:

The data is analysed based on:

- **Table 1-** Statistical calculation of Earning Quality Ratios using Excel
 - 1.1- HDFC Bank
 - 1.2- ICICI Bank
 - 1.3- Kotak Mahindra Bank
 - 1.4- Axis Bank
 - 1.5- IndusInd Bank
- **Table 2-** Detailed Statistics and Hypothesis Testing of Earning Quality Ratios
- **Table 3-** Ranking of selected banks based on their mean value Ratios.

1. Net Interest Margin

It shows the ability of the bank to keep the Interest on deposits low and the Interest on advances high. It is an essential measure of a bank's core income (income from lending operations).

Formula: $(\text{Interest income} - \text{Interest expense}) / \text{Interest earning assets}$

Analysis: A higher ratio indicates better earnings than the total assets.

2. Profit/Total Income Ratio or Net Profit Margin

The net profit margin equals how much net profit is generated as a percentage of revenue.

Formula: $\text{NET Profit/Total Income}$

Analysis: The higher ratio is preferable as it indicates that the bank is working very well.

3. Net Profit to Total Assets Ratio

This ratio indicates the efficiency of the banks in utilizing their assets to generate profits. A higher ratio indicates a better income-generating capacity of the assets and better management efficiency.

Formula: $\text{Net Profit/Total Assets}$

Analysis: A higher ratio is preferable.

4. Operating Profit / Total Assets Ratio

This ratio indicates how much operating profits are generated through utilizing bank assets. The better utilization of the funds will result in higher operating profits.

Formula: $\text{EBIT /Total Assets}$

Analysis: A higher ratio is preferable as it indicates that the assets are being utilized to total capacity, thus giving maximum profits.

5. Interest Income/Total Income Ratio

The primary source of income for banks is interest income. Thus, this ratio indicates how much of the total income comprises interest income. Here, net Interest will be taken i.e., Interest Earned -Interest Paid.

Formula: $\text{Interest Earned - Interest Paid /Total Income}$

Analysis: The higher ratio is preferable as it indicates that the bank is working very well.

6. Growth in profit

Formula: $\text{Net Profit current year - Net Profit previous year) /Net Profit previous year}$

Analysis: The higher ratio is preferable as it indicates that the bank is working very well.

Composite Earning capability- Each component in the earning quality ratios is scored from 1 to 5. In earnings, a rating of 1 reflects strong earnings sufficient to maintain adequate capital, loan allowance, and support operations. On the other hand, a rating of 5 experiences consistent losses and represents a distinct threat to the institution's solvency through capital erosion.

TABLE 01: Statistical Calculation Of Earning Quality Ratios Using Excel

RATIOS	TABLE 1.1 HDFC BANK									
	(Rs. IN CRORES)					STATISTICS				
YEAR	2018-19	2019-20	2020-21	2021-22	2022-23	MEAN	SD	COV	CAGR	GROWTH %
NET INTEREST MARGIN	0.0395	0.3441	0.0384	0.0385	0.0366	0.0994	0.1224	1.2306	-0.0148	7.7198
NET PROFIT/TOTAL INCOME RATIO	0.1832	0.1808	0.1902	0.2130	0.2350	0.2004	0.0207	0.1033	0.0511	-0.0131
NET PROFIT TO TOTAL ASSETS RATIO	0.0164	0.0169	0.0172	0.0178	0.0179	0.0172	0.0005	0.0314	0.0169	0.0305
OPERATING PROFIT TO TOTAL ASSETS RATIO	0.0307	0.0319	0.0319	0.0328	0.0310	0.03165	0.0008	0.0243	0.0020	0.0416
INTEREST INCOME TO TOTAL INCOME RATIO	0.4200	3.5019	0.4069	0.4442	0.4579	1.0462	1.2280	1.1738	0.0174	7.3377

GROWTH IN PROFIT	0.2019	0.2054	0.2457	0.1851	0.1878	0.2052	0.0217	0.1059	-0.0143	0.0174
RATIOS	TABLE 1.2 ICICI BANK									
	(Rs. IN CRORES)					STATISTICS				
YEAR	2018-19	2019-20	2020-21	2021-22	2022-23	MEAN	SD	COV	CAGR	GROWTH %
NET INTEREST MARGIN	0.2909	0.0312	0.0331	0.0342	0.0357	0.0850	0.1151	1.3539	0.3427	-0.8928
NET PROFIT/TOTAL INCOME RATIO	0.0936	0.0432	0.0869	0.1651	0.2225	0.1223	0.0711	0.5814	0.1890	-0.5390
NET PROFIT TO TOTAL ASSETS RATIO	0.0077	0.0035	0.0072	0.0132	0.0165	0.0096	0.0052	0.5385	0.1649	-0.5476
OPERATING PROFIT TO TOTAL ASSETS RATIO	0.0281	0.0243	0.0256	0.0296	0.0278	0.0271	0.0021	0.0780	0.0024	-0.1364
INTEREST INCOME TO TOTAL INCOME RATIO	0.3181	0.3467	0.3646	0.3975	0.4525	0.3759	0.0516	0.1373	0.0730	0.0900
GROWTH IN PROFIT	-0.3085	-0.5037	1.3580	1.0417	4.4136	1.2002	1.9720	1.6430	2.7026	0.6329
RATIOS	TABLE 1.3 KOTAK MAHINDRA BANK									
	(Rs. IN CRORES)					STATISTICS				
YEAR	2018-19	2019-20	2020-21	2021-22	2022-23	MEAN	SD	COV	CAGR	GROWTH %
NET INTEREST MARGIN	0.0377	0.0373	0.0390	0.0418	0.0407	0.0393	0.0019	0.0490	0.0154	-0.0109
NET PROFIT/TOTAL INCOME RATIO	0.1716	0.1704	0.1841	0.2187	0.2596	0.2009	0.0382	0.1900	0.0863	-0.0068
NET PROFIT TO TOTAL ASSETS RATIO	0.1716	0.0156	0.0165	0.0182	0.0200	0.0484	0.0689	1.4249	0.3497	-0.9092
OPERATING PROFIT TO TOTAL ASSETS RATIO	0.3008	0.0267	0.0278	0.0307	0.0281	0.0828	0.1218	1.4714	0.3777	-0.9111
INTEREST INCOME TO TOTAL INCOME RATIO	0.4005	0.3925	0.4179	0.4817	0.5093	0.4404	0.0520	0.1182	0.0492	-0.0198
GROWTH IN PROFIT	0.1972	1.0000	2.0596	0.1711	0.2309	0.7318	0.8195	1.1199	0.0320	4.0706

RATIOS	TABLE 1.4 AXIS BANK									
	(Rs. IN CRORES)					STATISTICS				
YEAR	2018-19	2019-20	2020-21	2021-22	2022-23	MEAN	SD	COV	CAGR	GROWTH %
NET INTEREST MARGIN	0.0295	0.0296	0.0308	0.0329	0.0305	0.0307	0.0014	0.0444	0.0072	0.0052
NET PROFIT/TOTAL INCOME RATIO	0.0049	0.0687	0.0208	0.0871	0.1577	0.0678	0.0605	0.8914	1.0057	13.1325
NET PROFIT TO TOTAL ASSETS RATIO	0.0004	0.0058	0.0018	0.0067	0.0111	0.0052	0.0042	0.8227	0.9444	13.6413
OPERATING PROFIT TO TOTAL ASSETS RATIO	0.0226	0.0237	0.0256	0.0234	0.0210	0.0233	0.0017	0.0717	0.0137	0.0519
INTEREST INCOME TO TOTAL INCOME RATIO	0.3281	0.3187	0.3224	0.3867	0.4011	0.3514	0.0393	0.1118	0.0410	-0.0286
GROWTH IN PROFIT	-0.9251	15.9638	0.6521	3.0489	0.9770	3.9433	6.8670	1.7414	2.0110	-18.2568
RATIOS	TABLE 1.5 INDUSIND BANK									
	(Rs. IN CRORES)					STATISTICS				
YEAR	2018-19	2019-20	2020-21	2021-22	2022-23	MEAN	SD	COV	CAGR	GROWTH %
NET INTEREST MARGIN	0.0362	0.0341	0.0429	0.0401	0.0398	0.0386	0.0035	0.0897	0.0191	-0.0579
NET PROFIT/TOTAL INCOME RATIO	0.1637	0.1183	0.1236	0.0798	0.1208	0.1212	0.0297	0.2452	0.0589	-0.2773
NET PROFIT TO TOTAL ASSETS RATIO	0.0163	0.0119	0.0144	0.0078	0.0115	0.0124	0.0032	0.2592	0.0675	-0.2697
OPERATING PROFIT TO TOTAL ASSETS RATIO	0.0300	0.0291	0.0351	0.0323	0.0318	0.0316	0.0023	0.0729	0.0114	-0.0306
INTEREST INCOME TO TOTAL INCOME RATIO	0.3403	0.3170	0.3375	0.3804	0.4219	0.3594	0.0418	0.1163	0.0439	-0.0686
GROWTH IN PROFIT	0.2574	-0.0846	0.3383	0.1408	0.6257	0.2555	0.2611	1.0219	0.1944	-1.3285

(Source: compiled and computed by using Excel)

INTERPRETATION:

1. Financial Ratios of HDFC Bank-

- ✓ **Net Interest Margin (NIM)-Analysis:** The Net Interest Margin for HDFC Bank started at 0.0395 in the year 2018-19 and experienced a significant increase to 0.3441 in 2019-20, followed by a decline in the subsequent years, ending at 0.0366 in the year 2022-23. The mean NIM over the period was 0.0994, with a standard deviation (SD) of 0.1224, indicating substantial fluctuations. The coefficient of variation (COV) is high at 1.2306, suggesting inconsistency in the bank's NIM over the years. CAGR & Growth: The Compound Annual Growth Rate (CAGR) for NIM is negative at -0.0148, showing a declining trend over the period. However, there is a positive growth rate of 7.7198% in the short term (likely due to the peak in 2019-20), which indicates a reduction in the difference between the interest income the bank is earning on loans and the Interest they pay on deposits or other borrowed funds.
- ✓ **Net Profit/Total Income Ratio Analysis:** This ratio shows a steady improvement from 0.1832 in 2018-19 to 0.2350 in 2022-23. The mean value is 0.2004 with an SD of 0.0207, indicating relatively low volatility (COV of 0.1033). CAGR & Growth: The ratio's CAGR is 0.0511, reflecting a consistent increase in profitability relative to total income. However, the growth rate is slightly negative at -0.0131%, suggesting a minor decline in the recent period, which means that the bank's operational expenses, provisions for bad loans, or interest expenses may have risen faster than income, squeezing profit margins.
- ✓ **Net Profit to Total Assets Ratio Analysis:** The Net Profit to Total Assets Ratio remained relatively stable, starting at 0.0164 in 2018-19 and reaching 0.0179 in 2022-23. The mean ratio over the period is 0.0172, with a very low SD of 0.0005, indicating minimal fluctuations (COV of 0.0314). CAGR & Growth: With a CAGR of 0.0169 and a slight growth rate of 0.0305%, the bank has consistently generated profit relative to its assets.
- ✓ **Operating Profit to Total Assets Ratio Analysis:** This ratio shows a gradual increase from 0.0307 in 2018-19 to 0.0328 in 2021-22 before slightly declining to 0.0310 in 2022-23. The mean ratio is 0.03165, with an SD of 0.0008 and a low COV of 0.0243, indicating stability in operating profit relative to assets. CAGR & Growth: The CAGR is minimal at 0.0020, and the growth rate is 0.0416%, suggesting a steady but slow improvement in operational efficiency.
- ✓ **Interest Income to Total Income Ratio Analysis:** This ratio fluctuated significantly, starting at 0.4200 in the year 2018-19, peaking at 3.5019 in 2019-20, and then stabilizing around 0.4579 in the year 2022-23. The mean value is 1.0462, with a high SD of 1.2280 and COV of 1.1738, reflecting high volatility in the bank's interest income relative to total revenue. CAGR & Growth: Despite the volatility, the CAGR is positive at 0.0174, and the growth rate is strong at 7.3377%, indicating a positive trend in interest income as a share of total revenue.
- ✓ **Growth in Profit Analysis:** Profit growth shows fluctuations, starting at 0.2019 in the year 2018-19, peaking at 0.2457 in the year 2020-21, and declining to 0.1878 in the year 2022-23. The mean growth rate over the period is 0.2052, with an SD of 0.0217 and a COV of 0.1059, indicating moderate consistency. CAGR & Growth: The CAGR is negative at -0.0143, but the growth rate is positive at 0.0174%, suggesting a mixed trend with short-term improvements but long-term challenges in sustaining profit growth. HDFC Bank demonstrates a generally stable performance with some fluctuations in critical ratios, particularly in the Net Interest Margin and Interest Income to Total Income Ratio. While the bank shows positive growth trends in certain areas, such as profitability and operational efficiency, there are challenges in maintaining consistent growth, as indicated by the negative CAGR in some ratios. The volatility in specific metrics like Interest Income suggests areas where the bank may need to focus on stabilization and strategic adjustments.

2. Financial Ratios of ICICI Bank-

- ✓ **Net Interest Margin (NIM) Analysis:** ICICI Bank's Net Interest Margin (NIM) shows significant variability over the period. The NIM started at 0.2909 in 2018-19, dropped sharply to 0.0312 in 2019-20, and gradually increased to 0.0357 in 2022-23. The mean NIM over the period is 0.0850, with a high standard deviation (SD) of 0.1151, indicating considerable fluctuations. The coefficient of variation (COV) is 1.3539, suggesting a high inconsistency in the NIM over the years. CAGR & Growth: The Compound Annual Growth Rate (CAGR) for NIM is significantly negative at -0.3427, and the growth rate is also highly negative at -0.8928%. This indicates a substantial decline in the bank's ability to maintain a steady NIM, which could be a concern for its interest-related earnings.

- ✓ **Net Profit/Total Income Ratio** Analysis: This ratio started at 0.0936 in 2018-19, experienced a dip to 0.0432 in 2019-20, but then saw a robust recovery, reaching 0.2225 in 2022-23. The mean ratio is 0.1223, with an SD of 0.0711, reflecting moderate variability (COV of 0.5814). This suggests that while the bank faced challenges, it recovered and improved its profitability relative to total income. CAGR & Growth: The CAGR for this ratio is positive at 0.1890, indicating a solid upward trend. However, the negative growth rate of -0.5390% indicates recent challenges, likely due to significant fluctuations in profitability over the period.
 - ✓ **Net Profit to Total Assets Ratio** Analysis: The Net Profit to Total Assets Ratio shows significant fluctuations, starting at 0.0077 in 2018-19, dipping to 0.0035 in 2019-20, and gradually improving to 0.0165 in 2022-23. The mean ratio is 0.0096, with an SD of 0.0052, indicating moderate variability (COV of 0.5385). This suggests that the bank's ability to generate profit relative to its total assets has been inconsistent. CAGR & Growth: The CAGR is positive at 0.1649, indicating an upward trend, but the negative growth rate of -0.5476% reflects challenges in maintaining this growth consistently over time. A declining growth percentage ratio may indicate that the bank is not using its assets (like loans, investments, etc.) as efficiently to generate income. Assets might not yield as much, or the cost of managing those assets could increase.
 - ✓ **Operating Profit to Total Assets Ratio** Analysis: This ratio remained relatively stable, starting at 0.0281 in 2018-19, with minor fluctuations, reaching 0.0278 in 2022-23. The mean value over the period is 0.0271, with a low SD of 0.0021 and a COV of 0.0780, indicating stability in operating profit relative to assets. CAGR & Growth: The CAGR for this ratio is slightly negative at -0.0024, indicating a very marginal decline over the period. The growth rate is also negative at -0.1364%, suggesting a slight reduction in operational efficiency.
 - ✓ **Interest Income to Total Income Ratio** Analysis: The Interest Income to Total Income Ratio has shown consistent growth, starting at 0.3181 in 2018-19 and increasing to 0.4525 in 2022-23. The mean ratio over the period is 0.3759, with an SD of 0.0516, indicating moderate variability (COV of 0.1373). CAGR & Growth: The positive CAGR of 0.0730 and growth rate of 0.0900% reflect a steady increase in the bank's reliance on interest income as a proportion of total revenue, indicating a stronger focus on core banking activities.
 - ✓ **Growth in Profit** Analysis: ICICI Bank's profit growth has been highly volatile, with a significant negative growth rate of -0.3085% in 2018-19 and -0.5037% in 2019-20, followed by a solid recovery to 4.4136% in 2022-23. The mean growth rate over the period is 1.2002, but with a high SD of 1.9720 and a COV of 1.6430, indicating significant instability in profit growth. CAGR & Growth: The CAGR is negative at -2.7026, indicating substantial long-term challenges in sustaining profit growth. However, the positive short-term growth rate of 0.6329% suggests that the bank has recovered from previous losses and is on a path to improvement. ICICI Bank has shown considerable variability in its financial ratios from 2018-19 to 2022-23. While there have been improvements in some areas, such as the Net Profit/Total Income Ratio and Interest Income to Total Income Ratio, the bank faces challenges in maintaining consistency, particularly in its Net Interest Margin and overall profit growth. The significant fluctuations in key ratios suggest that the bank needs to focus on stabilizing its performance and addressing the underlying causes of volatility. Despite these challenges, the bank has shown resilience in improving its profitability in the latter years, indicating potential for recovery and growth.
- 3. Financial Ratios of Kotak Mahindra Bank-**
- ✓ **Net Interest Margin (NIM)** Analysis: Kotak Mahindra Bank's Net Interest Margin (NIM) has remained relatively stable over the five years, with values ranging from 0.0377 to 0.0407. The mean NIM is 0.0393, with a low standard deviation (SD) of 0.0019, indicating minimal fluctuations. The coefficient of variation (COV) is 0.0490, suggesting that the bank has managed to maintain a consistent NIM over the years. CAGR & Growth: NIM's Compound Annual Growth Rate (CAGR) is favorable at 0.0154, reflecting a slight upward trend. However, the growth rate is negative at -0.01%, indicating that while the overall trend has been positive, the most recent year may have slightly declined. It may also indicate rising costs of deposits or borrowing, which are not fully passed on to borrowers through higher loan rates.
 - ✓ **Net Profit/Total Income Ratio** Analysis: This ratio shows a steady improvement, starting at 0.1716 in 2018-19 and rising to 0.2596 in 2022-23. The mean ratio is 0.2009, with an SD of 0.0382, indicating moderate variability (COV of 0.1900). This suggests that Kotak Mahindra Bank has increasingly efficiently converted its income into net profit. CAGR & Growth: The CAGR is positive at 0.0863, indicating a healthy upward trend. However, the growth rate of -0.0068% suggests a slight recent downturn, though the overall trend remains positive. A higher

amount set aside for non-performing assets (NPAs) could reduce net profits, even if the bank's income remains stable or grows. This suggests a potential deterioration in asset quality.

- ✓ **Net Profit to Total Assets Ratio** Analysis: The Net Profit to Total Assets Ratio for Kotak Mahindra Bank shows significant inconsistency. Starting at a high of 0.1716 in 2018-19, it dropped to 0.0156 in 2019-20 and gradually increased to 0.0200 in 2022-23. The mean ratio is 0.0484, with a high SD of 0.0689, indicating substantial variability (COV of 1.4249). This suggests the bank's ability to generate profit from its assets has been highly inconsistent. CAGR & Growth: The CAGR is significantly negative at -0.3497, and the growth rate is also highly negative at -0.9092%, indicating a sharp decline in this ratio over time. Adverse economic conditions may lead to higher defaults, slowing loan growth, or tighter margins, which can pressure net profit, even as the bank's total income stays stable or increases.
 - ✓ **Operating Profit to Total Assets Ratio** Analysis: This ratio also shows significant variability. Starting at 0.3008 in 2018-19, it dropped to 0.0267 in 2019-20, with minor fluctuations, ending at 0.0281 in 2022-23. The mean ratio is 0.0828, with a high SD of 0.1218, indicating considerable variability (COV of 1.4714). This suggests instability in the bank's operational efficiency relative to its assets. CAGR & Growth: The CAGR is negative at -0.3777, and the growth rate is also highly negative at -0.91%, reflecting a significant decline in the bank's operating profitability over the years.
 - ✓ **Interest Income to Total Income Ratio** Analysis: The Interest Income to Total Income Ratio has shown steady improvement, starting at 0.4005 in 2018-19 and increasing to 0.5093 in 2022-23. The mean ratio over the period is 0.4404, with an SD of 0.0520, indicating moderate variability (COV of 0.1182). This suggests the bank has increasingly relied on interest income as a significant portion of its revenue. CAGR & Growth: The positive CAGR of 0.0492 and the growth rate of -0.0198% indicate that with overall growth in this ratio, there may have been a slight decline in the most recent period.
 - ✓ **Growth in Profit** Analysis: The Growth in Profit ratio for Kotak Mahindra Bank has been highly volatile. The ratio surged from 0.1972 in 2018-19 to a peak of 2.0596 in 2020-21, before stabilizing at 0.2309 in 2022-23. The mean growth rate over the period is 0.7318, but with a high SD of 0.8195 and a COV of 1.1199, indicating significant instability in profit growth. CAGR & Growth: The positive CAGR of 0.0320 suggests some long-term growth, while the high positive growth rate of 4.07% reflects the significant gains made during the period, albeit with high volatility. Kotak Mahindra Bank's financial ratios from 2018-19 to 2022-23 indicate strengths and areas of concern. The bank has consistently maintained its Net Interest Margin and improved its Net Profit/Total Income and Interest Income/Total Income Ratios, suggesting substantial core banking operations and efficient income generation. However, the significant variability in the Net Profit to Total Assets and Operating Profit to Total Assets Ratios raises concerns about the bank's ability to generate returns from its assets and maintain operational efficiency consistently. Additionally, the high volatility in profit growth suggests that while the bank has had periods of strong performance, it has also faced significant challenges, leading to instability.
- 4. Financial Ratios of Axis Bank-**
- ✓ **Net Interest Margin (NIM):** Trend: NIM shows a slight upward trend from 0.0295 in 2018-19 to 0.0305 in 2022-23. The mean NIM is 0.0307, indicating the bank's profitability from its core lending operations is relatively stable. Variability: The standard deviation (0.0014) and coefficient of variation (0.0444) are low, suggesting that the NIM has been consistent with minimal fluctuation over the years. Growth: The compound annual growth rate (CAGR) of 0.0072 indicates modest growth in the margin over the period.
 - ✓ **Net Profit/Total Income Ratio:** Trend: This ratio experienced significant variability, with a low of 0.0049 in 2018-19 and a high of 0.1577 in 2022-23. The mean ratio is 6.78, showing improved profitability relative to total income in recent years. Variability: High standard deviation (0.0605) and coefficient of variation (0.8914) suggest substantial fluctuations in profitability. Growth: The CAGR of 1.0057 and growth percentage of 13.13% reflect significant improvement in profitability relative to total income, particularly notable in the last year.
 - ✓ **Net Profit to Total Assets Ratio:** Trend: This ratio increased from 0.0004 in 2018-19 to 0.0111 in 2022-23, indicating improved profitability of the bank's assets. Variability: The standard deviation (0.0042) and coefficient of variation (0.8227) are moderate, indicating some fluctuation in profitability relative to total assets. Growth: With a CAGR of 0.9444 and a growth percentage of 13.64%, there is a noticeable improvement in profitability relative to the bank's total assets.

- ✓ **Operating Profit to Total Assets Ratio:** Trend: The ratio remained relatively stable with minor fluctuations. It peaked at 0.0256 in 2020-21 and decreased slightly to 0.0210 in 2022-23. Variability: The standard deviation (0.0017) and coefficient of variation (0.0717) are low, indicating that the operating profit relative to assets has been consistent. Growth: The negative CAGR of -0.0137 and growth percentage of 0.05% reflect a slight decline in operational efficiency relative to assets over the period.
 - ✓ **Interest Income to Total Income Ratio-** Trend: This ratio increased from 0.3281 in 2018-19 to 0.4011 in 2022-23, showing a growing reliance on interest income. Variability: The high standard deviation (0.0393) and coefficient of variation (0.1118) indicate significant variability in this ratio over the years. Growth: Despite recent declines, the CAGR of 0.0410 and negative growth percentage of -0.02% suggest an overall increase in interest income's contribution to total revenue.
 - ✓ **Growth in Profit-** Regarding Trend: This ratio shows extreme variability, with a dramatic drop in 2018-19 followed by substantial growth in subsequent years, peaking at 15.9638 in 2019-20. In terms of Variability, The high standard deviation (6.8670) and coefficient of variation (1.7414) indicate significant fluctuations in profit growth. Growth: The negative CAGR of -2.0110 reflects a general trend of decreasing profit growth over the period. Overall, Axis Bank has improved several profitability metrics, particularly in net profit ratios and net profit to total assets ratio. However, some volatility in profit growth and interest income indicates varying operational performance over the years.
- 5. Financial Ratios of IndusInd Bank-**
- ✓ **Net Interest Margin (NIM):** It fluctuated over the five years, peaking in 2020-21 at 0.0429. The average NIM over the period was approximately 0.0386, with a slight decline in compound annual growth rate (CAGR) and an overall growth percentage decrease of -0.05%. A declining NIM could suggest increasing competition in lending, where banks may lower interest rates on loans to attract borrowers, thus squeezing margins.
 - ✓ **Net Profit to Total Income Ratio:** This ratio saw significant variability, with the highest value in 2018-19 at 0.1637 and a sharp drop in 2021-22 to 0.0798. The mean ratio stood at 0.1212, showing a negative CAGR of -0.0589 and an overall decline of -0.27% in growth percentage. Suppose the bank's interest income (from loans and investments) is not growing at a pace sufficient to cover rising costs or declining non-interest income. In that case, net profit will suffer, leading to a lower ratio.
 - ✓ **Net Profit to Total Assets Ratio:** This ratio also experienced a downward trend, starting at 0.0163 in 2018-19 and decreasing to 0.0115 by 2022-23. The mean ratio was 0.0124, indicating a negative CAGR of -0.0675 and an overall growth decline of -0.26%. This negative growth decline percentage means that the bank may have invested more in low-yield assets, such as government bonds, or increased cash reserves, which do not contribute significantly to profitability, dragging down the ratio.
 - ✓ **Operating Profit to Total Assets Ratio:** Starting at 0.0300 in 2018-19 and marginally reducing to 0.0318 by 2022-23, the mean ratio was approximately 0.0316. The growth in this ratio has been relatively stable, with a slight negative growth rate of -0.03%. A negative growth percentage in the Operating Profit to Total Assets ratio points to weakening profitability from core banking activities relative to the bank's asset base. This can arise from higher costs, lower income, inefficiency in asset management, or adverse economic conditions. It signals the need for improved cost control, better asset utilization, or strategic adjustments in the bank's operations.
 - ✓ **Interest Income to Total Income Ratio:** This ratio increased from 0.3403 in 2018-19 to 0.4219 in 2022-23, averaging 0.3594. The ratio demonstrates a moderate CAGR of 0.0439 despite a negative growth of -0.06%.
 - ✓ **Growth in Profit:** Exhibiting significant volatility, profit growth ranged from a high of 0.6257 in 2022-23 to a low of -0.0846 in 2019-20. The average growth was around 0.2555, with a notable standard deviation indicating high variability and a substantial overall decrease in growth rate of -1.32%.
These ratios reflect varied financial health indicators over the period, with some showing stability and others indicating potential areas of concern, particularly in profitability metrics.

Table 02: Detailed Statistics and Hypothesis Testing of Earning Quality Ratios

Ratios	Banks	Net Interest Margin	Net Profit/Total Income Ratio	Net Profit To Total Assets Ratio	Operating Profit To Total Assets Ratio	Interest Income To Total Income Ratio	Growth In Profit
Mean	HDFC	0.0994	0.2004	0.0172	0.0317	1.0462	0.2052
	ICICI	0.0850	0.1223	0.0096	0.0271	0.3759	1.2002
	KOTAK	0.0393	0.2009	0.0484	0.0828	0.4404	0.7318
	AXIS	0.0307	0.0678	0.0052	0.0233	0.3514	3.9433
	INDUSIND	0.0386	0.1212	0.0124	0.0317	0.3594	0.2555
Standard Deviation	HDFC	0.1224	0.0207	0.0005	0.0008	1.2280	0.0217
	ICICI	0.1151	0.0711	0.0052	0.0021	0.0516	1.9720
	KOTAK	0.0019	0.0382	0.0689	0.1218	0.0520	0.8195
	AXIS	0.0014	0.0605	0.0042	0.0017	0.0393	6.8670
	INDUSIND	0.0035	0.0297	0.0032	0.0023	0.0418	0.2611
Df		4	4	4	4	4	4
P. Value		0.5600	0.0010	0.0012	0.4228	0.3489	0.3582
F.Value		0.7655	7.1219	7.8912	1.0161	1.1818	1.1592
F.Crit		2.8661	2.8661	3.0556	2.8661	2.8661	2.8661
Null Hypothesis		Accept	Reject	Reject	Accept	Accept	Accept

(Source: computed and compiled using Annual Reports)

KEY INTERPRETATION:

INTERPRETATION: NET INTEREST MARGIN

The above table summarizes the Mean NIM Values for HDFC banks with the highest average NIM at 0.0994. ICICI bank follows with a NIM of 0.0850. Kotak Mahindra, Axis, and IndusInd Bank have significantly lower NIMs, with values at 0.0393, 0.0307, and 0.0386, respectively. Regarding the standard deviation, HDFC bank and ICICI bank exhibit higher variability in their NIMs, with standard deviations of 0.1224 and 0.1151, respectively. Kotak Mahindra Bank, Axis Bank, and IndusInd Bank show much less variation in their NIMs, indicated by their lower standard deviations ranging from 0.0014 to 0.0035. For ANOVA Test Results, the Degrees of Freedom (DF) is 4. The P-value is 0.560 (or 56%), the F-value: 0.7655, F-Critical Value: 2.8661. Therefore, the null hypothesis (that the mean NIMs across the banks are equal) is accepted as the F-value is less than the F-Critical value and the P-value is high. So, here, Variability in Performance states that the significant differences in mean NIM between the banks (especially between HDFC Bank/ICICI Bank and the other three) suggest variability in how effectively these banks manage the difference between the Interest they earn and the Interest paid out to lenders. For Stability of NIM: The low standard deviation for Kotak Mahindra Bank, Axis Bank, and IndusInd Bank suggests that their NIMs are relatively stable across the observed period, whereas HDFC Bank and ICICI Bank show more fluctuation, potentially indicating differing risk profiles or strategies in interest income management. For Statistical Test Insight: The ANOVA results indicate that there isn't a statistically significant difference in the mean NIMs across the banks at a 95% confidence level. This suggests that, despite some visual differences in means, statistically, they could come from populations with the same mean NIM. This analysis can guide stakeholders in understanding these banks' risk and return profiles and help them make informed decisions regarding investment or management strategies.

INTERPRETATION: NET PROFIT TO TOTAL INCOME

F-Statistic: The F-value is 7.1219, higher than the F critical value of 2.86608. This suggests a significant difference in the banks' net profit to total income ratio. P-Value: The p-value is 0.00098, smaller than the standard alpha level 0.05. This

indicates that the differences observed among the bank groups are statistically significant. The null hypothesis, which states that all groups (banks) have the same mean net profit to total income ratio, is rejected. This means that at least one bank has a significantly different net profit to total income ratio compared to the others.

INTERPRETATION: NET PROFIT TO TOTAL ASSETS

F-Statistic: The F-value is 7.8912, significantly higher than the F critical value of 3.05557. This suggests a significant difference in the net profit to total asset ratio among the different groups. P-Value: The p-value is 0.00124, smaller than the typical alpha level 0.05. This indicates that the observed differences among the groups are statistically significant. The null hypothesis, which states that all groups have the same mean net profit to total asset ratio, is rejected. This means that at least one group has a significantly different net profit to total asset ratio compared to the others.

INTERPRETATION: OPERATING PROFIT TO TOTAL ASSETS

F-Statistic: The F-value is 1.0161, lower than the F critical value of 2.8661. This suggests no significant difference in the banks' operating profit to total assets ratio. P-Value: The p-value is 0.4228, much higher than the typical alpha level 0.05. This indicates that the differences observed among the bank groups are not statistically significant. The null hypothesis, which states that all groups (banks) have the same mean operating profit to total assets ratio, cannot be rejected. This means there is no statistically significant difference in the five banks' operating profit to total assets ratio. Therefore, The ANOVA results suggest that the operating profit to total assets ratios are reasonably consistent across the banks (HDFC Bank, ICICI Bank, Kotak Bank, AXIS Bank, and IndusInd Bank), with no statistically significant differences detected. Therefore, any observed variations in this ratio among the banks are likely due to random variation rather than any systematic difference between the banks.

INTERPRETATION: INTEREST INCOME TO TOTAL INCOME

F-Statistic: The F-value is 1.1818, lower than the F critical value of 2.8661. This suggests no significant difference in the interest income to total income ratio among the different banks. P-Value: The p-value is 0.3489, much higher than the ordinary alpha level of 0.05. This indicates that the observed differences in the banks' interest income to total income ratio are not statistically significant. Variance: HDFC Bank shows a notably higher variance than the other banks, indicating more variability in its interest income to total income ratio. The ANOVA results suggest that the interest income to total income ratio does not differ significantly among the five banks (HDFC Bank, ICICI Bank, Kotak Mahindra Bank, Axis Bank, and IndusInd Bank). The observed differences are likely due to random variability rather than any systematic differences between the banks. Despite HDFC Bank having a higher average and variance, these differences are not statistically significant according to the ANOVA test. Based on the results, it can be concluded that the interest income to total income ratio is relatively stable across these banks, with no significant variation among them. This stability might indicate a common approach or strategy among these banks in managing their interest income relative to total income.

INTERPRETATION: GROWTH IN PROFIT

F-Statistic: The F-value is 1.1592, lower than the F critical value 2.8661. This indicates that there is no significant difference in the growth in profit among the different banks. P-Value: The p-value is 0.3582, much higher than the significance level of 0.05. This suggests that the differences observed in the growth in profit among the banks are not statistically significant. Variance: Axis Bank shows a notably higher profit growth variance than the other banks, indicating substantial variability in its growth performance. However, this variability does not translate into a statistically significant difference compared to other banks. The ANOVA results suggest that the profit growth is not significantly different across the five banks (HDFC Bank, ICICI Bank, Kotak Mahindra Bank, Axis Bank, and IndusInd Bank). Despite Axis Bank showing much higher growth and variance, the differences in growth performance among the banks are not statistically significant. Therefore, the null hypothesis, which assumes that all groups of banks have the same mean growth in profit, cannot be rejected based on the ANOVA results. This implies that the variations in growth in profit across these banks are likely due to random fluctuations rather than systematic differences in their performance. Consequently, while some banks, such as Axis Bank, may show higher growth, the differences are insignificant enough to be attributed to distinct growth strategies or conditions.

Table 03: Ranking of Selected Banks based on their Mean Values of Ratios.

RATIOS	HDFC BANK	ICICI BANK	KOTAK MAHINDRA BANK	AXIS BANK	INDUSIND BANK
NET INTEREST MARGIN	1	2	3	5	4
NET PROFIT/TOTAL INCOME RATIO	4	2	1	5	3
NET PROFIT TO TOTAL ASSETS RATIO	2	4	1	5	3
OPERATING PROFIT TO TOTAL ASSETS RATIO	3	4	1	5	2
INTEREST INCOME TO TOTAL INCOME RATIO	5	2	1	4	3
GROWTH IN PROFIT	5	2	3	1	4
COMPOSITE RANK SCORE	20	16	10	25	19

Sources: computed and compiled using the annual reports

INTERPRETATION: The table ranks five major Indian banks based on various financial ratios, which are crucial financial performance and health indicators. Here's a detailed look at the banks based on the provided rankings: HDFC Bank shows consistently strong performance across most ratios, leading in Net Interest Margin. However, it ranks lowest in Interest Income to Total Income Ratio and Growth in Profit, indicating potential areas of concern or different strategic focuses. ICICI Bank generally maintains solid rankings, especially in Net Profit/Total Income Ratio and Growth in Profit. It shows some weaknesses in the net and operating profit-to-total assets ratios. Kotak Mahindra Bank stands out as the top performer in profitability ratios and the most stable in operations, leading in three out of the six metrics. This suggests effective asset and income management relative to its peers. Axis Bank struggles across the board, ranking last in four ratios. Its highest rank is in Growth in Profit, where it leads, indicating possible recent improvements in profit generation. IndusInd Bank is a mid-range performer with no extreme highs or lows except in the Operating Profit to Total Assets Ratio, which ranks better. The composite score shows it as somewhat less competitive than HDFC Bank and ICICI Bank but better than Axis Bank. Composite Rank Score Interpretation says that Kotak Mahindra Bank scores the best overall, with a composite rank of 10, indicating top-tier performance across the board. Axis Bank scores the highest at 25, suggesting it has significant room for improvement compared to its peers. The composite scores reflect a weighted sum of ranks across all ratios, providing a snapshot of overall financial health and operational effectiveness.

Conclusion: This ranking system highlights each bank's strengths and weaknesses in key operational areas. Kotak Mahindra Bank stands out for its efficient management and profitability, while Axis Bank faces challenges across several key performance indicators. HDFC Bank and ICICI Bank exhibit strong but varying performance, suggesting different strategic priorities. IndusInd offers a balanced profile with moderate performance across all categories.

FINDINGS AND CONCLUSIONS:

Findings from Financial Ratios Analysis of HDFC Bank, ICICI Bank, Kotak Mahindra Bank, Axis Bank, and IndusInd Bank:-

- ✓ Overall Analysis and Conclusions: The analysis of the financial ratios for HDFC Bank, ICICI Bank, Kotak Mahindra Bank, Axis Bank, and IndusInd Bank reveals varied performances across critical metrics. While most banks show strengths in net profitability, core banking efficiency, and stability, challenges persist in maintaining consistency in NIM, profit growth, and operational metrics.
- ✓ Strengths: HDFC Bank and Kotak Mahindra Bank consistently manage their operational and income ratios effectively, highlighting strengths in income generation and asset utilization.
- ✓ Challenges: Banks like ICICI and IndusInd display significant fluctuations in their key ratios, indicating potential operational challenges and a need for strategic adjustments.
- ✓ Strategic Focus Areas: Banks may consider strategic initiatives targeting the stabilization of NIM, consistent profit growth, and operational efficiency to enhance overall financial health and resilience against future economic fluctuations. In conclusion, while promising growth areas and strategies are in place, sustained efforts towards stability and performance improvement will be crucial for all banks moving forward.

REFERENCES:

1. Jones, J. J. (1991). "Earnings Management During Import Relief Investigations." *Journal of Accounting Research*, 29(2), 193-228.
2. Beneish, M. D. (1999). "The Detection of Earnings Manipulation." *Financial Analysts Journal*, 55(5), 24-36.
3. Richardson, S., et al. (2005). "Assessing the Quality of Earnings: The Case for Using Accruals." *The Journal of Financial Economics*, 77(3), 709-735.
4. Zhang, Y. (2008). "Earnings Quality: An Overview." *The International Journal of Accounting*, 43(2), 144-163.
5. Trieschmann, J. S., et al. (2009). "Risk Management Practices and Earnings Quality." *Journal of Financial Stability*, 5(4), 310-327.
6. Othman, H. B., & Ameer, R. (2010). "The Impact of Corporate Governance on Earnings Quality in the Middle East." *The International Journal of Business and Finance Research*, 4(1), 45-60.
7. HassabElnaby, H. R., et al. (2013). "Impact of IFRS on the Quality of Financial Reporting: Evidence from GCC Countries." *International Journal of Accounting and Financial Reporting*, 3(2), 155-171.
8. Gupta, A., & Sharma, A. (2018). "Earnings Quality and Discretionary Accruals: Evidence from Indian Banking Sector." *Indian Journal of Corporate Governance*, 11(2), 123-145.
9. Cai, L., et al. (2019). "Understanding Earnings Quality in Indian Banks: A Study of Loan Provisions." *Journal of Applied Finance and Banking*, 9(3), 124-139.
10. Agarwal, A., & Kothari, S. P. (2019). "Earnings Persistence and Smoothness: Evidence from Indian Banks." *The IUP Journal of Applied Finance*, 25(1), 7-24.
11. Gupta, R., & Gupta, A. (2020). "Regulatory Environment and Earnings Quality: Evidence from Indian Banks." *Journal of Banking Regulation*, 21(1), 39-55.
12. Kumar, R., & Verma, R. (2021). "An Empirical Study of Earnings Quality: A Comparative Analysis of Indian Commercial Banks." *Journal of Financial Regulation and Compliance*, 29(1), 57-73.
13. Sahu, P. K., & Sahu, B. (2022). "An Analysis of Earnings Quality in Indian Banks: Methodological Challenges and Insights." *International Journal of Economics and Finance Studies*, 14(2), 45-59.
14. <https://www.hdfcbank.com/personal/about-us/investor-relations/annual-reports>
15. <https://www.icicibank.com/ms/aboutus/annual-reports/2022-23/icici/index.html>
16. <https://www.kotak.com/en/investor-relations/financial-results/annual-reports.html>
17. <https://www.axisbank.com/shareholders-corner/shareholders-information/annual-reports>
18. <https://www.indusind.com/in/en/investors/investor-landing.html>
19. www.rbi.ac.in
20. Press releases from banks