Analysis of earning quality of State Bank of India

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Abstract

The research focuses on the earnings quality of one of the public sector banks, State Bank of India (SBI), for a period of 11 years (2012–2023) by studying important financial measures such as Interest Income to Total Income, Net Interest Margin (NIM) to Total Assets, Return on Equity (ROE), and Operating Profit to Total Assets. The study attempts to examine the bank's profitability, efficiency, and sustainability of profits because of the increasing complexity of banking revenues and the requirement for financial stability. According to the results, interest income accounts for a significant amount of SBI's overall revenue (83.17%–90.06%), suggesting an extensive dependence on core banking functions. Asset growth has exceeded interest income efficiency, according to the NIM to Total Assets ratio. The ROE varied greatly, falling precipitously to -2.98% in 2017–18 before rising to 15.33% in 2022–23, indicating increased profitability. Consistent operating efficiency was shown by the Operating Profit to Total Assets ratio, which was stable between 1.46% and 1.98%. Interest income is significant for generating revenue, as evidenced by a hypothesis test that found it substantially adds to overall income ($t=5.29 > t\text{-critical}=1.83$). According to the report, SBI could raise shareholder returns through improved capital management, optimise asset utilisation to raise NIM, and diversify its revenue streams to reduce interest rate risks. The study emphasises that maintaining long-term financial stability requires equitable growth among core and non-core revenue sources. Even while SBI has excellent operational stability, significant increases in cost effectiveness and asset profitability might boost the company's earnings quality even further. The results give regulators, investors, and bank management important information for evaluating the sustainability and performance of the Indian banking industry.

Key Words: *Earnings, assets, interest, operating profit, total income, financial performance.*

Introduction

The banking sector is one of India's most intricate and rapidly expanding industries, which is the backbone of the Indian economy. Over the past few years, the banking sector in India has shown noticeable competitiveness, growth, efficiency, profitability, and soundness, making it one of the healthiest sectors in the world. Profitability being one measure used to evaluate an organisation's financial soundness, each business entity is evaluated based on its earnings. All companies are evaluated based on their revenues. Earnings are one of the most useful metrics for assessing the financial performance of financial institutions. However, earnings quality is equally important in the context of banks. One crucial factor that establishes a bank's capacity to generate steady profits in the future is the quality of earnings. In reality, earnings assess the bank's financial soundness as well as its ability to maintain quality, sustainability, and future profit growth. The claim that a bank's non-core businesses, such as interest and dividends on assets, treasury operations, and corporate consulting services, account for a major portion of its revenue makes the parameter more evident. Thus, profits as well as the earnings quality must be considered in relation to sustainability, competitiveness, healthy growth, revenue from core operations, etc for the banking industry. The reliability of a company's

earnings for evaluating its present and future performance is measured by the quality of earnings. Earnings quality is the capacity of declared earnings on the surface of financial statements to predict a company's future earnings and assure sustainability. It is a criterion for evaluating how "repeatable, controllable, and bankable" a company's earnings are, among other things. It has been interpreted in several ways as the extent to which earnings represent underlying economic impacts, such as improved cash flow projections, conservatism, or predictability.

Need for the study

Indian banks play a crucial role in the economy and should be evaluated based on more than just profit levels. It becomes important to examine the quality of earnings as it directly impacts the sustainability and reliability of future performance. High-quality earnings are marked by transparency, consistency, and fewer accounting errors, offering a clearer and more accurate reflection of a financial soundness. As banking revenues grow more complex, assessing the quality of earnings helps regulators, investors, and policymakers distinguish between lasting growth and short-term profits. This ensures the industry remains competitive and strong in an evolving economic environment hence, this study was chosen.

Literature Review

Kundu and Sharma (2015) conducted a study to assess the earning quality of several selected commercial banks in India. The study used both descriptive and exploratory research methods. Secondary data were collected over ten years to carry out the research. The findings showed that among the nationalised banks, the interest income as a proportion of total income was the highest, whereas Bank of Baroda had the lowest. It was also found that for a group of nationalised banks, there was no significant difference between interest income and non-interest income. To address the economic challenges, the report suggested that commercial banks should improve their operational efficiency and focus more on increasing both interest and non-interest income.

Gupta and Sikarwar (2005) used the CAMEL model variables to analyze the financial performance of Indian banks in order to ascertain if the average performance of new private sector and public sector banks over the research period, which ran from 2003–04 to 2007–08. Five banks from each sector were selected as a sample for the study. The study infers that there was no difference between new private sector and public sector banks in terms of capital adequacy and liquidity. In contrast, new private sector banks outperformed public sector banks in terms of earning quality, asset quality, and management quality.
Aloysius (2014) looked into three important areas like operational performance, profitability, and revenue sources to evaluate and differentiate the revenue quality of the largest eight banks, six public sector banks, and two new private sector banks. In terms of overall earnings quality, HDFC Bank Ltd. and State Bank of Travancore ranked first and second, respectively. The new private sector banks' performance differed significantly from the public sector banks'. HDFC Bank Ltd. Excelled in terms of profitability and earnings sources, while Canara Bank was the top performer in operational performance.

Oluoch and Gichaiya (2015) studied the earnings consistency of commercial banks of Kenyan from 2001 to 2012. They found that commercial banks' profits were not short-term or low quality. The results showed that large commercial banks had higher resilience compared to smaller ones. The study also found that the high quality of financial reporting by Kenyan commercial banks meant that investors could rely on the profit data provided by these banks.

Gadia (2015) selected five nationalised banks from the public sector and five from the private sector for the study. The research used secondary data over five years. The F-Test One-Way ANOVA was used as a statistical tool, while ratio analysis served as an accounting technique to evaluate the chosen banks' performance. The findings highlights that the net interest margin (NIM) relative to total assets and the interest income relative to total income of the selected banks showed different earning qualities during the period of study. It was concluded that the earning quality of the chosen banks varied significantly during the research period.

Shawtari, et. al., (2015) stated that cost effectiveness is a key factor in the banking sector. When interest rates were low, bank profits tend to rise. To reduce interest costs, banks need to engage a dependable

third party. An increase in the efficiency ratio, which is the ratio of operating expenses to operating income, shows that a bank or company is unable to harness its operating expenses effectively. A lower BOPO ratio, on the other hand, indicates that the company can more effectively manage its operational costs.. This suggests that efficiency is reflected in strong performance, which could encourage bank management to lower total profits to balance earnings. When performance is weaker, however, bank managers may reduce their DLLP.

Alhasan, et. al., (2023) examined how earning quality affects the efficiency of Nigerian deposit money banks. It employed secondary data to observe how variables changed over ten years, using a panel regression technique to measure efficiency. The findings from data envelopment analysis (DEA) showed that the efficiency of Nigerian deposit money banks is positively and significantly linked to the quality of earnings. The research suggests that management can ensure sustainability and secure going concern by strictly following accounting standards and implementing internal control monitoring."

Goals of the study

This study has the following objectives:

1. To study the Operating Profit to Capital Employed ratio of State Bank of India.
2. To analyse the ROA of State Bank of India.

Hypothesis

H_{01} - The interest income of State Bank of India is not significant as compared to its total income.

Research Design

A research study's plan, also known as its research design, outlines the steps and techniques needed to finish the study. In this study, secondary data spanning 11 years (2012–2013) have been collected from various sources, such as the internet, the State Bank of India's annual reports, and other relevant publications. In order to evaluate the elements impacting the Bank's Earning Quality, the study's objectives have been outlined and examined in detail. Additionally, the Student's t-test has been used to test the hypotheses developed for the study. This guarantees the study's methodical and controlled approach to evaluating the State Bank of India's earning quality.

Limitations

Accordingly, the current study is limited to secondary data and availability of data. The study period covered is 2012-13 to 2022-23

- The audit determines the data dependability.
- The lack of facts and literature.
- Secondary data serves as its foundation.
- It has covered a limited time period from 2012-13 to 2022-23.
- We have included only one bank in our analysis, State Bank of India.

Earning Quality Analysis

This aspect assesses how accurate the financial reports are and how clear and consistent the sources of income are. Low earnings quality indicates that the earnings may be unstable or risky, On the other hand, solid and consistent earnings are suggested by high earnings quality. To evaluate the earnings quality of the State Bank of India, certain ratios need to be calculated.

- INTEREST INCOME TO TOTAL INCOME RATIO
- NET INTEREST MARGIN TO TOTAL ASSETS RATIO

- RETURN ON EQUITY RATIO
- OPERATING PROFIT TO TOTAL ASSETS RATIO

Interest Income to Total Income Ratio

This ratio highlights the significance of interest-related activities such as lending and investing in generating the bank's total revenue. A higher ratio indicates that a larger portion of the bank's income is generated from interest-based sources, showing a stronger dependence on these revenue streams. However, a lower ratio indicates a smaller share of income coming from interest sources, suggesting a more diversified revenue model that may include income from non-interest activities such as fees, commissions, and other related income streams.

$$\text{Total Income Ratio} = \frac{\text{Interest Income To}}{\text{Total Income}} \times 100$$

Ratio of Interest Income to Total Income

(Rs. in Crores)

YEARS	INTEREST INCOME (Rs.)	TOTAL INCOME (Rs.)	RATIO
2k12 – 13	119657	135691	88.18
2k13 – 14	136350	154903	88.02
2k14 – 15	152397	174972	87.09
2k15 – 16	163998	191843	85.48
2k16 – 17	175518	210979	83.19
2k17 – 18	220499	265100	83.17
2k18 – 19	242868	279643	86.84
2k19 – 20	257323	302545	85.05
2k20 – 21	265150	308647	85.90
2k21 – 22	275457	316021	87.16
2k22 – 23	332103	368718	90.06
Mean	**212847.27**	**246278.36**	**86.37**
Average annual growth%	**177.54**	**171.73**	**2.13**

(Source: Annual Reports of State Bank of India 2012-13 to 2022-23)

The interest income to total income ratio shows how much of a bank's total income comes from interest. This ratio has remained fairly steady, usually ranging between the mid-to-high 80s. There were some noticeable changes, with a small drop during the years 2012-13 to 2016-17. This might have been due to fluctuations in interest charges or a shift in where the bank gets their income from. From 2017-18 onward, the ratio started to slowly rise again, showing a steady improvement. The biggest increase happened in the year 2022-23, reached 90.06%, which means a large part of the bank's income comes from interest. Overall, the pattern shows that income generated by interest has been a major part of the bank's revenue throughout the period under review.

Net Interest Margin to Total Assets Ratio

After deducting interest costs, this ratio, which is shown as a percentage of total assets, shows how profitable the bank's interest-bearing assets are. A greater ratio indicates that the bank is effectively producing a larger return on its assets that bear interest relative to its whole asset base, demonstrating high profitability and efficient use of assets. Conversely, a smaller proportion may indicate that the bank's total asset holdings are more lucrative than its interest-related operations. It might indicate inefficiencies or difficulties in controlling interest rate risk and making money.

$$\text{Net Interest Margin To Total Asset Ratio} = \frac{\text{Net Interest Margin}}{\text{Total Assets}} \times 100$$

Ratio of Net Interest Margin to Total Assets

(Rs. in Crores)

YEARS	NET INTEREST MARGIN (Rs.)	TOTAL ASSETS (Rs.)	RATIO
2k12 – 13	44332	1566211	2.83
2k13 – 14	49282	1792748	2.74
2k14 – 15	55016	2048080	2.68
2k15 – 16	57195	2357617	2.42
2k16 – 17	61860	2705966	2.28
2k17 – 18	74854	3454752	2.16
2k18 – 19	88349	3680914	2.40
2k19 – 20	98085	3951394	2.48
2k20 – 21	110710	4534430	2.44
2k21 – 22	120708	4987597	2.42
2k22 – 23	144841	5516978	2.62
Mean	**82293.81**	**3326971.55**	**2.49**
Average annual growth%	**226.71**	**252.24**	**-7.42**

(Source: Annual Reports of State Bank of India 2012-13 to 2022-23)

An essential metric that illustrates how well a bank produces net interest income in relation to its total assets is the net interest margin (NIM) to total assets ratio. Over time, this ratio has experienced some changes but has generally stayed within a reasonable range. Between 2012-13 and 2016-17, the ratio slowly decreased, which may suggest difficulties in keeping profits stable during periods of changing economic conditions. Starting from 2017-18, this trend began to reverse, with the ratio becoming more stable and even improving a little. In particular, during 2022-23, the ratio rose significantly, reaching 2.62, which demonstrates that, the bank became more efficient at earning net interest income in contrast to its total assets.

Return on Equity Ratio

This ratio demonstrates how efficiently the bank uses shareholder equity to generate earnings. An increased return on equity (ROE) suggests strong profitability and efficient use of capital, as the bank is produce more profit for each unit of shareholder equity. In contrast, a lower ROE may signal reduced profitability or inefficient use of shareholder equity, it can raise questions about the bank's managerial efficacy and financial performance. Overall, the ROE ratio gives insight into the bank's ability to produce

profits for its shareholders.

$$\text{Return On Equity Ratio} = \frac{\text{Net Income}}{\text{Share Holders. Eq}} \times 100$$

Ratio of Return on Equity

(Rs. in Crores)

YEARS	NET INCOME (Rs.)	SHARE HOLDERS. EQ	RATIO
2k12 – 13	14104	98883	14.26
2k13 – 14	10891	118282	9.20
2k14 – 15	13102	128438	10.20
2k15 – 16	9951	144274	6.89
2k16 – 17	10484	188086	5.57
2k17 – 18	-6547	219128	-2.98
2k18 – 19	862	220913	0.39
2k19 – 20	14488	232007	6.24
2k20 – 21	20410	253875	8.03
2k21 – 22	31675	280088	11.30
2k22 – 23	50232	327608	15.33
Mean	**15422.90**	**201052.90**	**7.67**
Average annual growth%	**256.15**	**231.30**	**7.50**

(Source: Annual Reports of State Bank of India 2012-13 to 2022-23)

A bank's profitability in relation to the equity held by its shareholders is shown by the return on equity (ROE) ratio. Over time, this ratio has changed, showing how the bank's profits and shareholder equity have varied. Between 2012-13 and 2016-17, the ROE steadily decreased, which means the bank was making less profit compared to its shareholders' equity. In the year 2017-18, the ROE turned negative, meaning the bank lost money contrast to shareholder equity, which might have been caused by different factors that affected its profitability. However, starting from 2018-19, the ROE improved noticeably, with big increases in 2021-22 and 2022-23, reached 11.30% and 15.33%, respectively. These increases suggest that the bank became more profitable with regard to its shareholders' equity, which could be due to effective strategies or positive market trends.

Operating Profit to Total Assets Ratio

This ratio demonstrates the profitability of the bank's primary operations, without including other income or costs not related to daily operations, compared to its total assets. A higher ratio means the bank is doing a better job of making profits from its main activities in regards to the size of its assets. Conversely, a smaller ratio might mean the bank is not making as much profit from its primary operations in contrast to its total

assets, which could point to problems in controlling costs or earning income efficiently.

$$\text{Operating Profit To Total Assets Ratio} = \frac{\text{Operating Profit}}{\text{Total Assets}} \times 100$$

Ratio of Operation Profit to Total Assets

(Rs. in Crores)

YEARS	OPERATING PROFIT(Rs.)	TOTAL ASSETS (Rs.)	RATIO
2k12 – 13	31081	1566211	1.98
2k13 – 14	32109	1792748	1.79
2k14 – 15	38913	2048080	1.89
2k15 – 16	43257	2357617	1.83
2k16 – 17	50847	2705966	1.87
2k17 – 18	54074	3454752	1.56
2k18 – 19	53875	3680914	1.46
2k19 – 20	61916	3951394	1.56
2k20 – 21	70014	4534430	1.54
2k21 – 22	75292	4987597	1.50
2k22 – 23	83712	5516978	1.51
Mean	**54099.09**	**3326971.54**	**1.68**
Average annual growth%	**169.33**	**252.24**	**-23.73**

(Source: Annual Reports of State Bank of India 2012-13 to 2022-23)

The ratio of operating profit to total assets shows how effectively a bank produces operational profits in relation to its overall assets. Over time, this proportion has followed a fairly steady pattern, with small changes within a limited range. Between 2012-13 and 2016-17, the ratio stayed about the same, it implies that the bank maintained a consistent ability to produce operating profits contrast to its assets. Overall, there was a minor drop in the ratio between 2016-17 and 2017-18, which may have indicated a short-term decline in efficiency. Starting from 2018-19, the ratio became stable again, remaining around 1.50 to 1.56, showing that this bank continued to utilise its assets efficiently to generate operating profits.

Hypothesis Testing

Null hypothesis r = 0.87

$$\mathbf{t} = \frac{r*\sqrt{n}-2}{\sqrt{1}-r^2}$$

$t = 5.29$

Calculated value = 5.29

Table value 0.05 = 1.83

Hence calculated value (t) > table value (t.05) = 5.29 >1.83

Observation

Because the computed value of t is higher than the critical value, the study's null hypothesis is rejected, and State Bank of India's interest income represents a major portion of the bank's overall revenue.

Findings and Suggestions

- Interest income accounts for the majority of the bank's revenue, as indicated by the ratio of interest income to total income. The lowest recorded value was 83.73%, while the highest was 90.6%. This is a positive sign for the bank, as it indicates a low portion of non-performing assets, as interest income has been consistently earned and total income has increased mainly due to interest. However, this can also expose the bank to risks related to variations in credit risk and interest rates. The bank should continue to increase its loans and advances, as these will help raise interest income and contribute to an increment in total income. A rise in loans, however, also brings a risk of default and fluctuations in interest rates.
- Over time, the Net Interest Margin (NIM) to Total Assets ratio has usually declined, from 2.83% in 2012–13 to 2.62% in 2022–2023., even though NIM has increased. This suggests that while NIM has improved, the growth in total assets has been faster. To improve profitability and NIM without relying heavily on asset growth, the bank should consider reviewing innovative asset management techniques to guaranty more effective use of resources. Improving the margin-to-asset ratio could lead to better future profitability.
- The Return on Equity (ROE) ratio has been steadily declining, indicating the bank's inability to maintain shareholders' equity and leading to reduced profits. A higher ROE is generally beneficial for both the bank and its equity shareholders. However, as the bank started to improve its management efficiency, profits began to rise. These improvements indicate better profitability and favourable market conditions. It is suggested that the State Bank of India should focus more on using shareholders' funds effectively and work towards increasing profits from equity to attract more shareholders. The bank should invest funds in a way that minimises losses and keep a close watch on non-performing assets that may lead to financial losses.
- The ratio of operating profit to total assets has been adequate. as the ratio is above 1, indicates that the bank is properly using its assets to maintain operating profits through its core operations. It is recommended that the bank continue to maintain this position by reducing operating expenses and striving to enhance operating profits for the future.

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