

# Study on Performance Analysis Using Camel Rating Technique

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**Abstract:** *The CAMEL Rating System, an international rating system, is used by bank regulators to evaluate the overall financial performance of banks and other financial institutions. Examiners and regulators in the financial sector employ the CAMEL grading system, which is regarded internationally as a method for monitoring risk. CAMEL stands for Capital A: Assets, profits; management L = liquidity. Financial institutions are evaluated using the five aforementioned factors in addition to their Sensitivity under the CAMEL grading system that has been put in place in the United States. In this study project, we make an effort to understand the camel rating technique through an examination of bank performance.*

**Keywords:** CAMEL Rating System

## I. INTRODUCTION

The CAMELS Rating System was created in the US as a supervisory rating system to evaluate the general health of a bank. The six variables that are taken into account for the ranking are abbreviated as CAMELS. The CAMELS rating is private, in contrast to other regulatory ratios or ratings. Only senior management uses it to comprehend and control potential hazards. The CAMELS rating system, which is used globally to rate banks, is helpful. It is based on six criteria: enough capital, high-quality assets, sound management, profitable operations, liquidity, and sensitivity. This approach aids in identifying banks that may be riskier and weaker. Simply put, RBI authorities evaluate a bank's strength based on its performance in each of the six areas using the CAMELS rating system. These include sensitivity, assets, managerial skill, profitability, and adequate capital.

### Objectives

- To study about camel rating technique
- To study about how camel rating technique work
- To study the camel rating technique with the comparison analysis of HDFC and SBI bank

### Discussions

#### CAMELS Rating System

In order to assess the overall health of a bank, the CAMELS Rating System was developed in the US. The acronym CAMELS stands for the six factors that are used to determine the ranking. Unlike other regulatory ratios or ratings, the CAMELS rating is private. It is only used by top management to understand and manage possible risks.

#### History

The Uniform Financial Institution Rating system was established on November 13, 1979, by the Federal Financial Institution Examination Council. The National Credit Union Administration did the same in October 1987. The acronym CAMEL rating is also used to refer to this rating scheme. It has shown to be an effective internal supervisory technique for determining the soundness of a financial organisation by identifying the institutions that require further care or attention. A method for assessing banks' overall performance and pinpointing their advantages and disadvantages is the CAMELS rating. This approach is primarily used by bank regulators or examiners who have received training from the RBI.

CAMELS offers ratings to banks based on their financial statements and the analysis of their profit and loss account, balance sheet, and on-site examination by bank regulators. Each bank receives a score from the police under this grading system, with 1 being the best and 5 the worst. "CAMELS" stands for the assessment criteria that are utilised to

provide ratings. Unquestionably, one of the key requirements for making sure a country's economy runs smoothly is the performance of its banking system, which must be able to carry out its primary function as a financial intermediary and support monetary development by making unused capital accessible to dynamic businesses and by encouraging capital formation within the economy. a potent, practical, and workable. The continued development of the financial sector depends on the banking system. The bank's financial accounts had been accessed using a special camel ratio. The camel model is used in this study to gauge financial success. This technique conforms with US rules as well as AIA's CAMEL Approach to Bank Analysis.

**Working of CAMELS Rating System**

For each category, scores can vary from one to five. The institution's strong performance and risk management practises are indicated by the highest score, one. However, five is the mark with the lowest score. It implies that there is a strong possibility that the bank will fail and that prompt action is required to confirm the situation. An institution's current financial position is described using a composite rating, which runs from 1 to 5.

A score of 1 indicates that a bank performs well, is solid, and adheres to risk management guidelines.

A score of two indicates that an institution has only minor faults and is financially healthy.

A rating of three indicates that the institution exhibits supervisory concern across a number of criteria.

A rating of 4 means that an institution has risky business practices and is thus dangerous.

An organization receiving a score of 5 is fundamentally unsound and has poor risk management procedures. Banks with an average score of under two are thought of as high-quality organisations. If banks have a score of four or above, they are considered to be poor institutions. Examiners of bank institutions score the following factors using the acronym CAMELS. CAMELS is an abbreviation for the six criteria that make up the worldwide rating system used by banking regulatory bodies to evaluate financial organizations.

It stands for "Capital adequacy, Asset quality, Management, Earnings, Liquidity, and Sensitivity."

**CAPITAL ADEQUACY**

The level of capital adequacy measures how well an organisation complies with rules regarding the required minimum capital reserve. The grade is determined by regulators by looking at the capital situation of the financial institution both now and in the past. Future capital position is forecast based on the institution's future goals, such as whether it intends to pay dividends or buy another business. Trend analysis, capital composition, and capital liquidity would also be taken into account by the CAMELS examiner.

The capital adequacy ratio (CAR) is used to assess a bank's capacity to absorb an acceptable level of loss. National authorities keep tabs on the banks' CAR. Knowing how secure the public's money is with the banks and how they may recover from losses, if any, is made easier by this. This contributes to the safety of the depositors as well as the stability and efficiency of the global financial institutions. By Basel II standards, a CAR ratio must be at least 8%, and by RBI, it must be at least 9%.

The four ratios under this parameter are:-

Capital Adequacy Ratio	$\frac{\text{Tier I Capital} + \text{Tier II Capital}}{\text{Risk Weighted Assets}} \times 100$
Debt to Equity Ratio	$\frac{\text{Total Liability}}{\text{Total Equity}} \times 100$
Advance to total Asset Ratio	$\frac{\text{Advances}}{\text{Total Asset}} \times 100$
Equity to Total Asset Ratio	$\frac{\text{Equity}}{\text{Total Asset}} \times 100$

CAR ratio:

Tier I capital is the kind of capital that absorbs losses. Tier II capital can assist in absorbing losses during the company's liquidation. Less protection is provided to depositors by this capital. The CAR ratio with the highest preference will be rated at 1.

Debt / Equity ratio:

This ratio demonstrates how much debt the corporation incurs to fund its assets. If the ratio is higher, this indicates that investor funding is more than creditor financing. If wages are not more than the cost of borrowing, this leads to increased financial distress. Having a lower debt to equity ratio is desired and will be given a ranking of 1.

Advances / Total assets ratio:

This ratio aids in determining a bank's lending ferocity, which increases profitability. The ratio is scored 1 because the higher it is, the better the profit is. Total advances include receivables, while total assets exclude revalued assets.

Equity / Total assets ratio:

This ratio aids in determining what will happen to the company's investor-owned assets. If a corporation has a significant level of leverage, the creditors will take over when it files for bankruptcy. Less leverage indicates that the majority of the firm's assets are owned by the company. The equity to asset ratio that is higher will be preferred.

Parameters of Capital Adequacy

The Parameter	Desirable Quality
1. Capital Adequacy Ratio (Car)	Higher Ratio Is Advisable
2. Debt To Equity Ratio (D\E Ratio)	Lower Ratio Is Advisable
3. Total Advances To Total AssetsRatio	Higher Ratio Is Profitable
4. G-Securities To TotalInvestment Ratio	Higher Ratio Is Advisable

Rating of Capital Adequacy

Each element in the CAMEL model is given a score between 1 and 5. A grade of 1 in the context of capital adequacy denotes a strong capital level in relation to the risk faced by the financial institution. The grade of 5 denotes a critically low amount of capital, necessitating rapid support from shareholders or outside funding. 1997's Uniform Financial Institutions Rating System

ASSET QUALITY

Fundamentals of asset quality

Poor asset quality is the primary factor in the majority of bank failures, claims Grier (2007). The loan portfolio is a crucial asset class; the biggest risk the bank faces is the possibility of loan losses resulting from past-due loans. By managing credit risk and assessing the quality of the loan portfolio through trend analysis and peer comparison, the credit analyst should carry out the asset quality evaluation. Because the asset quality is mostly a product of the analyst's perspective, measuring it is challenging.

Frost (2004) emphasizes that the non-performing loans ratios (NPLs), which are used as a proxy for asset quality, and the allowance or provision for loan losses reserve are the key asset quality indicators. Loans can be divided into five categories according to the conventional categorization system: standard, special mention, substandard, dubious, and loss. The three lowest categories of debt that are past due or for which interest has not been paid are known as NPLs. 90 days is the standard worldwide. Regulators in certain nations permit a longer time frame, usually 180 days.

By making sufficient provisions to the loan loss reserve<sup>2</sup> account, the bank is required by regulation to support the bad debts.

As seen below, the AIA's CAMEL method to Bank Analysis (1996) incorporates the asset quality requirements:

Trends including loan concentrations, intra-group lending, and real-estate exposure should be observed. Lack of diversity will expose the loan portfolio of a bank that largely relies on lending to certain specific business sectors and/or business entities. As a result, AIA creates a portfolio mix that includes a third of loans for commercial, industrial, and consumer use.

Loan growth: Has there been a significant rise in lending and what kinds of loans have been made; are cautious criteria being upheld or are they loosening as a result of competition?

Non-performing Loans: Amount, Composition, Reasons for Significant Increases or Decreases, and Definition of NPLs.

What percentages of total loans and non-performing loans do reserves represent?

Real-estate exposure: how many loans are based on real estate, and which types of real estate lending commercial or residential are involved.

Intra-group exposure: the amount of loans to linked firms, the main businesses of the group, and the ownership percentage.

Net non-performing asset tototal asset	Net non-performing asset ----- x 100 Total asset
Gross NPA to total asset	Gross non-performing asset x 100Total asset
Net NPA to net advances	Net non-performing asset x 100Net advances
Gross NPA to net advances	Gross non-performing assets x 100Net advances

Net Non-Performing Assets / Total Assets: Any sum that a borrower cannot repay, either in interest or principle, within 90 days is referred to as a Non Performing Asset (NPA). This ratio aids in determining the bank's capacity to assess credit risk and its capacity to collect debts.

The lowest ratio is used for the gross non-performing assets to total assets ratio.

Net non-performing assets as a percentage of net advances: This ratio measures the amount of net non-performing assets relative to net advances. Net non-performing assets are calculated by deducting interest on suspense accounts and the allowance for non-performing assets from gross non-performing assets. It displays bad debts as a percentage of the total loan approved. The lower the ratio, the better.

Gross Non-Performing Assets / Gross Advances: In this calculation, gross Non-Performing Assets, or the amount before deducting provisions, are taken into account. The lower ratio shall prevail.

Parameters of Asset Quality

Name of the Parameter	Desirable Quality
1) Net NPA to net advances ratio	Lower ratio is recommended
2) Standard advances to total advancesratio	Higher ratio reduces default risk
3) Total investment to total assets ratio	Higher ratio adversely affects the profitability of banks
4) Net NPA to total assets ratio	Lower ratio is advisable

Rating of Asset Quality

Each element of the CAMEL rating system receives a score between 1 and 5. A grade of 1 denotes good asset quality and minimal portfolio risks in the context of asset quality. A grade of 5 on the other hand signifies a really poor asset quality that poses a serious risk to the institution's continued existence. (The 1997 Uniform Financial Institutions Rating System).

MANAGEMENT QUALITY The cornerstones of quality control

The ability of the board of directors and management to recognise, quantify, and control the risks associated with an institution's operations and to make sure that they are carried out in a manner that complies with all applicable laws and regulations is essentially what is meant by management quality, according to the Uniform Financial Institutions Rating System (1997), p. 6. Grier (2007) contends that although management contributes significantly to a bank's performance, it is measured as part of the asset quality analysis, making it the single most significant factor in the CAMEL rating system.

According to the AIA method to bank analysis, the management of the bank oversees the gathering of financial ratios that are compatible with management plans and has defined objectives for both its local and foreign operations. The top management should have a stellar reputation in the local media if they are qualified and experienced. The following are the management needs that are considered in AIA's CAMEL method to Bank Analysis (1996).

Ownership: Large private corporations with significant economic impact or the government hold the majority of the bank, as government assistance is the most essential mitigating factor to future financial issues.

Size: highest ranking locally in terms of assets.

Year of operations: extensive history of operations since founding.

The Management is judged using the major financial ratios below, and to be regarded as a good bank in the United States, they must satisfy the requirements listed below:

<b>Business per employee</b>	<b>Total deposits and advances/No. of employees</b>
<b>Profit per employee</b>	Net profit/No. of employees
<b>Return on asset (ROA)</b>	Net income x 100/Total assets
<b>Return on equity</b>	Net income x 100/Shareholders wealth

Business per employee:

This ratio demonstrates how efficiently the company uses its human resources. The better the ratio, the better the use of the human resources. The greater ratio is picked.

Profit per employee:

This ratio shows how much the workforce contributes to the banks' bottom line. The higher ratio is selected.

Return on Assets (ROA):

This ratio evaluates a bank's profitability in relation to its total assets. The term "Return on Investment" (ROI) is another moniker for this ratio. It is better to use the greater value.

Return on Equity (ROE):

The return on equity (ROE) reveals how much of the banker's investment has been turned into revenue. It is desired to have a better return on equity.

Parameters of Management efficiency

<b>Name of the Parameter</b>	<b>Desirable Quality</b>
1) Secured advances to total advances ratio	Higher the ratio better the performance
2) Interest expenses to total assets ratio	Lower ratio is beneficial to banks
3) Profit per employee	Higher ratio is more profitable
4) Business per employee	Higher ratio is advisable

Rating of Management

Each element in the CAMEL rating system receives a score between 1 and 5. A rating of 1 is given in the management category to indicate that the management and board of directors are completely effective. On the other side, management that is severely lacking qualifies for a grade of 5. To achieve reliable and secure operations, replacement or strengthening may be required. System for Evaluating Uniform Financial Institutions, 1997

EARNING ABILITY Fundamentals Of Earning Ability

This assessment takes into account both the quantity and direction of earnings as well as any potential influences on long-term sustainability. Inadequate management may result in loan losses and in return require higher loan allowance or pose high level of market risks. Future earning potential should be valued at least as highly as previous and current earning potential.

According to Grier (2007), a steady profit not only increases public trust in the bank but also covers loan losses and provide adequate contingencies. Additionally, it is essential for a stable financial system and aids in shareholder compensation. As a result, stable healthy earnings are crucial to the long-term viability of financial organisations. Profitability ratios gauge a company's capacity to turn a profit from sales and assets. The following are examples of how the earning requirements are considered in the AIA's CAMEL method to Bank Analysis (1996):

Majority of earnings is annuity in nature (low volatility).

The growth trend of the past three years is consistent with or better than industry norm and

There are several revenue sources, including interest and non-interest sources. The profitability is estimated based upon the following key financial ratios

<b>Dividend payout ratio</b>	Dividend per share x 100 / Earnings per share
<b>Operating profit to total income</b>	Earnings per share / Total asset
<b>Net interest to total income</b>	Interest earned - interest paid x 100 / Total income
<b>Net profit to total assets</b>	Earning after interest and tax x 100 / Total asset

Profitability of the banks is determined by this. The following proportions will be counted on to determine the earnings of the Banks:

**Dividend payout ratio:**

This ratio demonstrates the portion of profits that have been paid out as dividends to shareholders. The greater ratio will be given preference.

**Operating profits / Total assets:**

This ratio is useful for calculating the total operational profits produced by employing bank assets. The greater ratio is desired since it demonstrates that assets are being used to their utmost potential in order to maximise earnings.

**Net interest / Total income:**

This ratio aids in determining the percentage of interest income relative to overall revenue. The greater ratio is picked.

This variable emphasises how a bank generates its earnings. This also shows how earnings will continue to rise and be sustainable in the future. A bank's capacity to generate a reasonable return on its assets, which enables the organisation to finance expansion, maintain competitiveness, and replenish and/or expand capital, is essential to its long-term sustainability. The following list of criteria was used to evaluate the earning quality.

Parameters of earnings quality

<b>Name of the Parameter</b>	<b>Desirable Quality</b>
1) Return on equity (ROE)	Higher ratio implies better the performance
2) Return on assets (ROA)	Higher the ratio better the performance
3) Return on investment (ROI)	Higher ratio is more profitable
4) Net interest income to total assets ratio	Higher ratio is advisable

**Rating of Earning Ability**

Each element of the CAMEL rating system receives a score between 1 and 5. A grade of 1 indicates solid profits that are enough to fund operations and keep enough capital and loan allowance. A rating of 5 on the other hand, consistently experiences losses and poses a serious risk to the institution's viability due to capital eroding. System for Evaluating Uniform Financial Institutions, 1997

**LIQUIDITY Fundamentals Of Liquidity**

It is necessary to have access to assets that can be readily turned into cash without suffering a disproportionate amount of loss, as well as enough liquidity sources in relation to present and future demands. The fund management processes have to make it possible for an institution to quickly and with little loss sell assets while maintaining a level of liquidity sufficient to meet its financial commitments on time.

The amount of liquidity "expresses the degree to which a bank is capable of fulfilling its respective obligations," according to Rudolf (2009). Since banks make money by receiving short-term deposits at lower interest rates and lending or investing these funds at higher rates over the long run, it is dangerous for banks to misalign their lending interest rates.

The AIA's CAMEL technique to Bank Analysis (1996) combines the liquidity criteria in the manner described below: Consumer deposits account for the vast bulk of the funds; there is no concentration of the sources of funding. The banks' ability to satisfy their immediate obligations is shown by their liquidity. Banks must take the appropriate steps to safeguard themselves against liquidity risk and to ensure that their investments are more profitable. The banks will be

able to produce profits this way while simultaneously supplying liquidity. The following ratios are considered in this situation.

<b>Net profit to total asset</b>	<b>Liquid assets</b> -----x 100 <b>Total asset</b>
<b>Liquid asset to total asset</b>	Liquid assets ----- x 100 Total deposits
<b>Credit deposit ratio</b>	Total advances x 100 Total deposits
<b>Current ratio</b>	Current assets ----- Current liabilities

Examples of liquid assets include cash on hand, cash in other banks (in India and abroad), cash in the Reserve Bank of India, and cash that is ready for use right away. The liquidity situation of the bank may be evaluated using this ratio. Increased is the ratio.

**Liquid asset to total asset ratio:** This ratio evaluates the banks' ability to quickly convert deposits into cash by comparing their liquid assets to total deposits. The total deposit includes demand, saving, term, and deposits in other institutions. A bank with a greater ratio is picked.

**Credit deposit ratio:** The depository financial institution's advances are compared to its total deposits using this ratio. The bank is not employing all of its resources if the ratio is low, and the converse is true if the ratio is high. Ratios with greater value are preferred for finance purposes.

**Current Ratio:**

The current ratio gauges a bank's ability to pay down its immediate liabilities. If this ratio is less than 1, the company probably won't be able to pay its short-term debts. The business may not necessarily be in serious financial problems if it is larger than 3. Because how a firm allocates its resources determines how everything works. A high current ratio may occasionally also be a sign that the group is employing its working capital and current assets inefficiently.

Liquidity is essential for the type of business that banks are in. Liquidity refers to a bank's capacity to meet both short-term obligations and lending commitments. Liquidity is the most important aspect, particularly in the banking business, as banks are considered to be the market's principal generators of liquidity. Therefore, ineffective liquidity management may hinder a bank's capacity for action. If the business has enough liquidity, it can raise liabilities or quickly and inexpensively convert assets to cash to get the required capital. However, this study takes into consideration the following ratios.

Parameters of liquidity

Name of the parameter	Desirable quality
1) Liquid assets to total deposit ratio	Higher the ratio better the performance
2) G-securities to total assets ratio	Higher ratio is advisable
3) Total investment to total deposit ratio	Higher ratio implies better the performance
4) Cash to deposit ratio	Higher ratio is more profitable

Rating of Liquidity

The CAMEL rating system assigns a score between 1 and 5 to each component. Since the institution has access to sufficient sources of funding to meet both current and anticipated liquidity demands, a grade of 1 in the area of liquidity indicates strong liquidity levels and well-developed finances

If the rating is 5, which indicates a critical lack of liquidity, the institution must promptly seek outside assistance to meet its liquidity needs. Uniform Financial Institutions System for Evaluation, 1997

Composite rating and exposure limit

After each element's rating has been determined, the five criteria are averaged to provide the composite rating. In AIA's CAMEL approach to Bank Analysis, 1996, the composite rating is stated as a method for selecting the best banks out of a prospective pool of banks. Based on the composite rating of each individual bank, the financial analyst recommends an exposure limit equal to the bank's level.

The following fundamental criteria are provided with the suggested restrictions (AIA's CAMEL approach to bank analysis) for figuring out the maximum limits for each bank:

The upper and second limitations for banks with a CAMEL rating of 1-2 are as follows:

A maximum of 20% of a bank's shareholders' equity or 3% of all liabilities, whichever is smaller; other countries may impose a limit on the sum.

The following third limit applies to banks having a CAMEL rating of 3: Other countries may impose a cap on the amount; the maximum is 15% of a bank's shareholders equity or 3% of all liabilities, whichever is smaller. Limits for banks with grades of 4 and 5 are not suggested. No investment was considered.

Rating Scale	Rating Range	Rating Analysis	Exposure limits	Rating interpretation
1	1.0-1.4	Outstanding	1st limit (maximum)	The bank outperforms the average bank in all respects and by easily measurable differences
2	1.6-2.4	Superior	2nd limit	Comparably superior to the ordinary bank, but not quite great in every way
3	2.6-3.4	Average	3rd limit	a well-run, good bank that just meets all of the major standards
4	3.6-4.4	Under-perform	Not recommended	The bank demonstrates a major weakness that if not corrected, could lead to a very severe or unsatisfactory condition that will threaten its existence. This would also include major financial and/or managerial surprises
5	4.6-5	Doubtful	Not recommended	The bank's financial situation is poor, and the asset quality has damaged more than half of its main capital. Further degradation, if not reversed, will result in regulatory control and a significant chance of collapse.

**Analysis of HDFC and SBI Bank Using Camel Rating Technique**

**CAPITAL ADEQUACY**

Conserving and protecting stakeholder trust and avoiding bankruptcy are both tremendously beneficial for a bank. This indicates if the bank has sufficient capital to absorb unforeseen losses in the future.

**CAPITAL ADEQUACY RATIO (%) – GROUP RANKING**

BANKS	2022	2021	2020	2019	2018	Average	RANK
HDFC	18.90	18.79	18.52	17.11	14.82	17.62	1
SBI	13.83	13.74	13.06	12.72	12.60	13.19	2

ADVANCES TO ASSETS (%)

BANKS	2022	2021	2020	2019	2018	Average	RANK
HDFC	6.89	6.76	6.79	6.88	6.46	6.75	1
SBI	5.47	5.39	5.87	5.92	5.58	5.64	2

DEBT EQUITY RATIO

Bank	2022	2021	2020	2019	2018	AVG	RANK
HDFC	1.14	0.961	1.06	1.45	2.14	1.35	2
SBI	1.498	1.548	1.294	1.457	1.304	1.42	1

COMPOSITE CAPITAL ADEQUACY

Banks	Capital Adequacy Ratio		Advances To Assets		Debt Equity Ratio		Group Rank	
	%	Rank	%	Rank	%	Rank	MEAN	Rank
HDFC	17.62	1	6.75	1	1.35	2	1.333333	1
SBI	13.19	2	5.64	2	1.42	1	1.666667	2

Based on the inquiry, it was determined that HDFC had the highest average capital adequacy ratio while SBI had the lowest total advances to net assets ratio. SBI, however, has succeeded in enhancing the bank's debt management and has moved to the top of the debt equity ratio category. A high debt-to-equity ratio shows that the bank has the financial resources to pay its debt obligations and may utilise those resources to increase equity returns and pursue strategic development.

ASSET QUALITY

By calculating the net non-performing assets as a proportion of net advances, one may gauge the quality of an asset. One of the greatest dangers that banks face is the ratio of assets to liabilities. An increase in the number of non-performing loans indicates a decline in asset quality because loans have the lowest default risk.

Table 2: Table showing the Asset Quality Ratios and its parameters of SBI and HDFC bank for the period 2018 to 2022

Net NPA to Net Advances Ratio

Bank	2022	2021	2020	2019	2018	AVG	RANK
HDFC	0.32	0.4	0.35	0.39	0.03	0.298	1
SBI	1.02	1.5	2.2	30.14	5.72	8.116	2

Total

Investment to Total Assets Ratio

Bank	2022	2021	2020	2019	2018	AVG	RANK
HDFC	22.95	26.5	26.78	24.43	23.78	24.888	1
SBI	29.64	29.74	26.44	26.19	30.61	28.524	2

NET

NPA to Total Asset Ratio

Bank	2022	2021	2020	2019	2018	AVG	RANK
HDFC	0.22	0.27	0.24	0.27	0.25	0.25	1
SBI	0.55	0.81	1.31	17.84	3.19	4.74	2

Source: Annual reports of SBI and HDFC bank from 2018-2022

Banks	Net NPA to Net Advances Ratio		Total investment to total assets ratio		Net NPA To Total Asset Ratio		GROUP RANK	
	%	Rank	%	Rank	%	Rank	MEAN	Rank
HDFC	0.298	1	24.888	1	0.25	1	1	1
SBI	8.116	2	28.524	2	4.74	2		2

According to the report, HDFC is managing credit more effectively than SBI since it has a lower credit ratio than SBI. SBI has a greater investment to total assets ratio than HDFC, showing that there are challenges that have an effect on the profitability of the banks. The Net NPA to Total Assets ratio shows that HDFC has much less net non-performing assets (NPA) than SBI. A high level of NPA indicates a greater likelihood of credit defaults, which might have an impact on the banks' profitability and net worth.

**MANAGEMENT EFFICIENCY**

This is another essential component of the CAMEL model that guarantee the growth and survival of a bank. Total advances to total deposits ratio

Bank	2022	2021	2020	2019	2018	AVG	RANK
<b>HDFC</b>	87.78	84.85	86.59	88.76	834.63	236.522	1
<b>SBI</b>	67.47	66.53	71.73	75.08	71.49	70.46	2

Business per employee

Bank	2022	2021	2020	2019	2018	AVG	RANK
<b>HDFC</b>	206813043	505498809	183054632	177699814	163972186	247407697	2
<b>SBI</b>	277809651	249571543	223169169	0	2070680590	564246191	1

Source: Annual reports of SBI and HDFC bank from 2018-2022 Profit per Employee

Bank	2022	2021	2020	2019	2018	AVG	RANK
<b>HDFC</b>	2610652.4	2591035.7	2244771.4	2149495.2	1981431.6	2315477	1
<b>SBI</b>	1296867.16	830869.25	580806.85	0	-247971.1	492114	2

Source: Annual reports of SBI and HDFC bank from 2018-2022

Banks	Total advances to total deposits ratio		Business per employee		Profit per employee		GROUP RANK	
	%	Rank		Rank		Rank	MEAN	Rank
<b>HDFC</b>	236.522	1	247407697	2	2315477	1	1.333333	1
<b>SBI</b>	70.46	2	564246191	1	492114	2	1.666667	2

It can be seen that HDFC and SBI have greater ratios when comparing the average of total advances to total deposits. When compared to SBI, this ratio shows that HDFC has been able to provide a range of loans from the deposits mobilised. SBI ranks higher than HDFC in the business per employee ratio, which measures how many transactions an individual typically handles each day. However, HDFC comes out on top when compared to SBI since its earnings are substantially higher when comparing the amount of money the banks have made each employee.

**EARNINGS QUALITY**

It fundamentally decides the bank's profitability. Additionally, it illustrates how future earnings will remain stable and grow. For assessing the earning quality of banks, the following four ratios have been calculated. ratio of operating income to total assets. This illustrates how much money a financial organisation may make from its operations for every rupee put into all of its assets.

Net Interest Margin

Bank	2022	2021	2020	2019	2018	AVG	RANK
HDFC	3.48	3.71	3.67	3.87	3.76	3.698	1
SBI	2.42	2.44	2.48	2.4	2.16	2.38	2

Profit Margin Ratio

Bank	2022	2021	2020	2019	2018	AVG	RANK
HDFC	28.93	25.74	22.86	21.29	24.79	24.722	1
SBI	11.49	7.69	5.63	0.35	-2.96	4.44	2

Return on net worth ratio

Bank	2022	2021	2020	2019	2018	AVG	RANK
HDFC	15.40	15.06	13.72	13.48	15.20	14.57	1
SBI	13.92	9.94	7.74	0.48	-3.78	5.76	2

The Net interest margin reveals that

Banks	Net InterestMargin		Net profit marginratio		Return on net worth ratio		GROUP RANK	
	%	Rank		Rank		Rank	MEAN	Rank
HDFC	3.698	1	24.722	1	2315477	1	1	1
SBI	2.38	2	4.44	2	492114	2	2	2

With the numerous loans it offers to retail and business customers, HDFC is able to generate a higher return. When compared to SBI, HDFC is able to generate a revenue of 24.1%, according to the net profit margin. For the bank, a bigger profit is desirable. When compared to SBI, the return on net worth ratio shows that HDFC is performing well in terms of the bank's profitability

## LIQUIDITY

The reputation of the bank is impacted by monetary risk. A crucial indicator of the bank's capacity to fulfil its financial commitments is liquidity. A corporation is said to be in an adequate liquidity position if it can swiftly convert its assets into cash or increase its liabilities to get enough liquid funds. Liquid Assets to Total Assets Ratio: This ratio assesses the overall liquidity condition of the bank. Table 5: Table showing the Liquidity Capacity ratios and its parameters of SBI and HDFC bank for the period 2018 to 2022

Liquid ratio

Bank	2022	2021	2020	2019	2018	AVG	RANK
HDFC	19.48	18.77	17.58	16.62	16.61	17.812	1
SBI	6.71	7.48	8.57	9.13	8.09	7.996	2

Current ratio

Bank	2022	2021	2020	2019	2018	AVG	RANK
HDFC	0.07	0.05	0.03	0.04	0.05	0.048	2
SBI	0.08	0.09	0.08	0.09	0.08	0.084	1

Deposit ratio

Bank	2022	2021	2020	2019	2018	AVG	RANK
HDFC	82	84.85	86.6	88.7	83.4	85.11	1
SBI	61.37	68.97	73.32	73.35	73.79	70.16	2

Banks	Liquid ratio		Current ratio		Cash to deposit ratio		GROUP RANK	
	%	Rank		Rank		Rank	MEAN	Rank
HDFC	17.812	1	0.048	2	85.11	1	1.333333	1
SBI	7.996	2	0.084	1	70.16	2	1.666667	2

#### COMPOSITE RANKING OF THESE THREE BANKS' GENERAL PERFORMANCE

In comparison to HDFC, SBI has achieved the second place under all of the CAMEL Model's criteria. This is a blatant indicator that SBI has to improve its weak areas in order to perform better on the CAMEL Model, while maintaining a solid capital adequacy ratio, asset quality management efficiency, and preserving profitability. This is seen in the following table:

#### COMPOSITE OVERALL RANKING

BANK	C	A	M	E	L	MEAN	RANK
HDFC	1	1	1	1	1	1	1
SBI	2	2	2	2	2	2	2

## II. CONCLUSION

HDFC Bank's debt equity ratio is below par under the capital adequacy ratio. Parameter in relation to SBI. Therefore, HDFC needs to change its stance. SBI must focus on producing assets of higher quality in terms of asset quality. The study's time span likewise exhibits the prior NPA impact

When compared to SBI, the Management Efficiency Ratio of HDFC needs to revisit how the roles and duties of the workers are designed.

HDFC outperforms SBI in all three categories that reflect the bank's business earnings under the Earnings capability category.

Given that HDFC has achieved the second place, the liquidity ratio suggests that the current ratio has to be enhanced. This demonstrates that its existing liabilities cannot be satisfied with its current assets.

A robust and thriving economy depends on a stable financial system. The banking industry makes up the majority of the Indian financial system, which is essential to the nation's economic growth. The financial performance of SBI, a public sector bank, and HDFC Bank, a private sector bank, is analysed and compared in the current research. The CAMEL model served as the foundation for the study.

This model is an important tool for determining a bank's relative financial health and for outlining the steps that must be taken to strengthen its deficiencies. A ratio-based methodology to evaluate the performance of banks is called the CAMEL model. To explain the many ratios that may be used to evaluate the banking sector's financial performance. The research shows that both banks are operating profitably and upholding the necessary standards. It may be said that Private Sector Bank, specifically HDFC Bank, is found to be superior performer when compared to Public Sector Bank, namely SBI during the research period, in all the criteria of Capital Adequacy, Asset Quality, Management Efficiency, Earning Capacity, and Liquidity of the CAMEL model.

**REFERENCES**

- [1]. A Purohit, P. B. (2018). A Camel model analysis of selected public and private sector banks in India. ASAR International Conference.
- [2]. Garg, K. (2015). An empirical analysis of profitability position of selected private sector banks in India.
- [3]. Journal of Management Sciences and Technology , 2 (3), 22-28.
- [4]. Meena. (2016). Financial Analysis of Select Banks using Camel approach a study with reference to Indian Banking Industry. International Journal of reseach and scientific innovation , 3 (10), 30-35.
- [5]. Misra, A. (2013). A Camel Model analysis of State Bank Group. World Journal of Social Sciences , 3(4), 36-55.
- [6]. [https://www.researchgate.net/publication/342703554\\_Applying\\_the\\_CAMELS\\_Performance\\_Evaluation\\_Approach\\_for\\_HDFC\\_Bank](https://www.researchgate.net/publication/342703554_Applying_the_CAMELS_Performance_Evaluation_Approach_for_HDFC_Bank)
- [7]. <https://www.investopedia.com/terms/c/camelrating.asp>
- [8]. Angadi and Devraj 1983, 'Profitability and Productivity of Banks in India', Economic and Political Weekly, Vol. 18 (Nov), pp. 26.
- [9]. Barr, Richard S. et al. 2002, 'Evaluating the Productive Efficiency and Performance of U.S. Commercial Banks', Engineering Management, Vol. 28, No.8, pp. 19.s