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Performance Evaluation of Banks through Camel Model with Reference to Sbi and HDFC Bank

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ABSTRACT: Indian banking sector is one of the fastest growing one in the economy. Lots of innovations, capital formation is dependent on the boost from the banking sector. Not only depositors treat sound bank as financial guarantee but even shareholders, employees and the country as a whole looks upon it. In this study, to find out the financial health SBI has been opted of the public sector banks while HDFC has been opted out of the private sector banks- chosen under the CAMEL Analysis. Data from 2018 to 2022 has been collected from the annual reports of the banks. Various ratios have been calculated to analyze the variables in a different way.

Key words: CAMEL Model, Banks, Capital Adequacy, Asset Quality, Management Efficiency, Earnings, Liquidity

I. INTRODUCTION:

A strong, robust banking system is important for the overall development of theeconomy. The era of the 1990s ushered in sea of changes in the Indian economy. This revolution led to the need for development of innovations and growth in the financial sector. Transparency in accounts, better competitiveness and observance of international financial reporting standards brought in substantial changes in Indian Banking. Performance of the banking sector is an effective barometer to measure the development of different sectors in the economy. One such measure is the CAMEL Model. The Camel model is a supervisory rating system developed in the US to classify the bank's position. This model is used to evaluate the performance of the banks. Parameters such as capital adequacy, asset quality, management, earnings and liquidity of the banks are considered for the weightage and ranks are allotted.(Priyanka Jha, 2021).The Camel model is an effective tool to understand the financial position of the bank and suggest suitable measures to improve shortcomings of it. In India, RBI adopted this approach in 1996 based on the recommendations of the Padmanabhan Committee.

II. REVIEW OF LITERATURE:

Bhanwar Singh and Pawan (2016)have studiedvarious ratios to analyze the overall performance of banks through CAMEL model. From this article it can be concluded that the performance of HDFC bank was excellent and has got 1st position. IndusInd bank holds the 2ndposition followed by Axis bank in 3rd place followed by Yes bank in 4th place and ICICI bank performed poorly on overall and got 5th position for the study period.**Brahma Chaudhuri (2018)** in their article have compared the financial performance of the SBI & ICICI. Various ratios have been used to measure the bank's profitability, solvency position and management efficiency. He has concluded that both the banks are maintaining the required standards and running profitability. From the study, ICICI bank has been a better performer in terms of profitability and management efficiency as compared to SBI for the study period.**Dr. Ajith Kumar and MusbashirAlam (2018)**, in their study have analyzed the financial position and performance of five selected public sector banks in India viz., Bank of Baroda, Canara bank, PNB, Central bank of India and Union bank of India using CAMEL model for the period from 2012-2016. They have used different ratios and are ranked, for this purpose some of the statistical tools are used they are Arithmetic Mean and Standard Deviations for calculating values. From the results of the study, it was found that there is statistically no significant difference in the performance of the selected public sector bank's performance during the period of study. It was also observed that the

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banks with low ranking need to improve their performance to reach up to the desired standards.**G.L. Meena (2016)** in her article, "Financial analysis of selected banks using Camel approach a study with reference to Indian banking industry" has evaluated the selected public and private sector banks from each of the important parameter of CAMEL model. The researcher has used the stratified random sampling technique to adopt for selecting the sample and concluded that the four factors -earnings per employee, debt equity ratio, total asset-to-total deposits ratio, net NPA's-to-total advance ratio are the major factors impacting the financial performance of the banks taking return on assets as an independent variable.

2.1 NEED FOR THE STUDY: The present study is taken up to understand the financial performance of SBI and HDFC through the CAMEL model.

2.2 OBJECTIVES OF THE STUDY:

1. To assess the financial performance of SBI and HDFC bank by using CAMEL model
2. To evaluate the dimensions of the Camel model on the profitability of the banks

III. RESEARCH METHODOLOGY

DATA COLLECTION: The study is based on the secondary data collected from money control.com, audited financial statements of the banks and other related websites.

POPULATION OF THE STUDY: SBI in the public sector and HDFC Bank in the private sector has been opted for the study.

3.1SCOPE OF THE STUDY:This study covers 5 years of data (2018 to 2022) pertaining to SBI and HDFC bank. All the data for 2023 were not available. Hence for analysis only until 2022 has been considered. Camel model studies the financial performance of banks through analysis of capital adequacy, asset quality, management efficiency, earning capacity and liquidity management aspects.

IV. DATA ANALYSIS:

The data is analyzed via the CAMEL Model(Capital Adequacy, Asset Quality, Management Efficiency, Earnings and Liquidity).

4.1HYPOTHESIS:The present study tests the following hypothesis:

Null Hypothesis (H_0): There is no significant difference in performance of SBI and HDFC bank assessed by CAMEL model.

Alternative Hypothesis (H_1): There is significant difference in performance of SBI and HDFC bank assessed by CAMEL model.

4.2. EMPIRICAL RESULTS AND DISCUSSION: Financial performance of SBI and HDFC on different parameters of CAMEL Model are as follows:

a) **Capital Adequacy**- This parameter is an important indicator of financial well -being of the bank. From this parameter, the bank is assessed to understand the financial position of the bank and the ability of the management to provide additional funds and maintain investor's confidence. It consists of Tier I capital and Tier II capital. One can calculate it by dividing the bank's quality by its risk weighted assets. Thisratio is generally expressed in the form of percentage. Generally, a higher ratio implies safety as it will be in a position to deal with unexpected losses due to non-availability of capital. Currently the minimum ratio of capital to risk weighted assets is 8% under Basel II and 10.5% (including a conservation buffer of 2.5%)under Basel III. Capital adequacy of the bank can be tested by computing the following ratios:

Capital adequacy ratio	(Tier 1 capital +Tier 2 capital) / Risk weighted capital	It is a measure of bank's core capital and is expressed in the form of a percentage. The higher the ratio it is considered as better
Total Advances to Net Assets Ratio	Total advances / Total Assets	This ratio indicates the aggressiveness of the banks' lending which results in profitability.
Debt Equity ratio	Total Debt / Total Shareholder's equity	This ratio shows the relationship between the company's total debtand total shareholders fund

Table 1: Table showing the Capital Adequacy Ratios and its parameters of SBI and HDFC bank for the period 2018 to 2022

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Capital Adequacy Ratio

Bank	2022	2021	2020	2019	2018	AVG	RANK
SBI	13.83	13.74	13.06	12.72	12.6	13.19	2
HDFC	18.9	18.79	18.52	17.11	14.82	17.62	1

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

Total Advances to Net Assets Ratio

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

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

Debt Equity Ratio

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

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

From the analysis it was found that HDFC has obtained the first rank and SBI obtained the second rank in average ranking of capital adequacy ratio and total advances to net assets ratio. But in the case of debt equity ratio SBI has gained the first rank and has been able to have a better debt management in the bank. A high debt equity ratio signifies that the bank can fulfill debt obligations through its cash flow and leverage it to increase equity returns and strategic growth.

b) **Asset Quality**: Asset quality covers an institution's loan quality and this has an impact on the earnings of the institution. Assessing asset quality involves rating the investment risk factor the bank may face and balance those factors against the bank's capital earnings. This shows the stability of the bank when it encounters certain risks . This can be measured by the following ratios:

Net NPA to Net advances	Net NPA Net advances given	Lower the ratio it indicates the better credit efficiency of the bank
Total investments to net assets	Total invested assets Networth	Higher the ratio the adversity increases towards the profitability of the banks
Net NPA to Total Assets ratio	Net NPA *100 Total Assets	Lower the ratio, betteris the performance of the banks

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
SBI	1.02	1.5	2.2	30.14	5.72	8.116	2
HDFC	0.32	0.4	0.35	0.39	0.03	0.298	1

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

Total investment to total assets ratio

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

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

Net NPA to Total Assets Ratio

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

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

From the analysis it is observed that HDFC is having a lower credit ratio when compared to SBI indicating that HDFC is managing credit better than SBI. In the investment to total assets ratio SBI has a higher ratio than HDFC indicating that there is adversity with an impact on the profitability of the banks. The Net NPA to Total Assets ratio indicates that the amount of net NPA is relatively very less in HDFC when compared to SBI. A high level of NPA suggests probability of a large number of credit defaults that affect the profitability and networth of the banks.

c) **Management Efficiency**- There are no hardcore defined parameters to measure the management efficiency of the banks. This parameter signifies the ability of the banks top brass to take the right decisions. It helps to evaluate the quality and helps the banks to achieve sustainable growth. The management then checks whether the banks have been able to attain this growth. The CAMEL model has suggested few ratios to measure the efficiency. The ratios are as follows:

Total advances to total deposits ratio	Total loans Total deposits	Helps to assess the bank's liquidity by comparing the banks' total loans to total deposits during the period. Higher the ratio it is better
Profit per employee	Net Profit No. of employees	How efficiently a bank is utilizing its employees to generate profits. Higher the ratio it is better.
Business employee	Business /No. of employees Where Business= Advances +deposits	Denotes the productivity and how efficiently a bank utilizes its employees. Higher the ratio it is better

Table 3: Table showing the Management Efficiency ratio and its parameters of SBI and HDFC bank for the period 2018 to 2022

Total advances to total deposits ratio

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

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

Business per employee

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

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

Profit per employee

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

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

On comparing the average of the total advances to total deposits ratio it is observed that HDFC has a higher ratio when compared to SBI. This ratio indicates that HDFC has been able to give variety of loans from the deposits mobilized when compared to SBI. In the business per employee ratio SBI is having a better ranking when compared to HDFC as the number of transactions employees usually handle in a day. But when we compare the amount of profits the banks has earned per employee HDFC stands first when compared to SBI as its profits are relatively more

D) **Earnings capacity:**A bank's ability to produce earnings to be able to sustain its activities , expand, remain competitive are a key factor in rating its continued validity. This parameter is determined by assessing the bank's earnings, earnings growth, stability, valuation allowances, net margins and the quality of the bank's existing assets. Earnings can be assessed from the following ratios

Net Interest Margin	Investment Income- Interest expenses /Average earning Assets	Reveals the amount of money bank is earning via the loans compared to the interest bank is paying on deposits
Net Profit Margin	Net Profit/Revenue X100	Measures the percentage of a company's revenue
Return on networth ratio	Net Income/Shareholder's Equity	Denotes the profit earning capacity of the company on a shareholder's invested amount

Table 4: Table showing the Earnings Capacity Ratios and its parameters of SBI and HDFC bank for the period 2018 to 2022

Net Interest Margin

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

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

Net profit margin ratio

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

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

Return on net worth ratio

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

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

The Net interest margin reveals that HDFC is able to get a better return on the various kinds of loans it is disbursing to the retail and corporate customers. The Net profit margin shows that HDFC is able to earn a revenue of 24.1% when compared to SBI. The higher the profit better for the bank. The return on networth ratio is also indicative that HDFC is doing a good job for the profitability in the bank when compared to SBI.

E) Liquidity: Liquidity indicates the capacity of the banks to pay off its financial obligations. If the liquidity is too low it hampers the growth of the banks to meet its current liabilities. If the liquidity is too high it indicates that the banks are unable to harness maximum use of cash and hence backing down on the profitability. Hence an equilibrium must be stuck between these two points. The ratios suggested to measure liquidity under the CAMEL model are as follows:

Liquid Ratio	Liquid Assets/Current Liabilities	Reveals the liquidity position of the bank
Current Ratio	Current Assets/Current Liabilities	Indicates the efficiency of the usage of the assets
Cash to Deposit Ratio	Total Cash/ Total Deposits	Reveals how much core funds of the bank are used for lending

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
SBI	6.71	7.48	8.57	9.13	8.09	7.996	2
HDFC	19.48	18.77	17.58	16.62	16.61	17.812	1

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

Current ratio

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

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

Cash to Deposit ratio

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

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

Calculation of compositeratio of SBI & HDFC- From table -6 it is observed that SBI scored a lower ranking when compared to HDFC in case of the capital adequacy ratio and the total advances to net assets ratio. It has been able to manage only the debt equity ratio. In case of the Asset quality parameter in all the three ratios HDFC has a better hold when compared to SBI. This shows that SBI slipped in managing its assets properly, creating a risk for all its investors. In terms of management efficiency, SBI has scored better in the business per employee ratio when compared to the other two ratios. HDFC has managed its total advances to total deposits ratio and the profits it is earning per employee ratio. HDFC has scored better in the earnings capability ratio when compared to SBI in all the three ratios.

Table 6: Table showing the Composite ranking of the sub parameters

Capital Adequacy	**SBI**	**HDFC**
Capital Adequacy Ratio	2	1
Total Advances to Net assets ratio	2	1
Debt Equity Ratio	1	2
Composite	1.666667	1.333333
Rank	2	1
Asset Quality	**SBI**	**HDFC**
Net NPA to Net Advances Ratio	2	1
Total investment to total assets ratio	2	1
Net NPA to Total Assets Ratio	2	1
Composite	2	1
Rank	2	1
Management Efficiency	**SBI**	**HDFC**
Total advances to total deposits ratio	2	1
Business per employee	1	2
Profit per employee	2	1
Composite	1.666667	1.333333
Rank	2	1
Earnings Capability	**SBI**	**HDFC**
Net Interest Margin	2	1
Net profit margin ratio	2	1
Return on net worth ratio	2	1
Composite	2	1
Rank	2	1
Liquidity Capability	**SBI**	**HDFC**
Liquid ratio	2	1
Current ratio	1	2
Cash Deposit ratio	2	1
Composite	1.666667	1.333333
Rank	2	1

Overall Performance of the Banks– Under all the parameters of the CAMEL Model, SBI has secured the second position in comparison with HDFC. This is a clear indication that despite maintaining a good capital adequacy ratio, asset quality, management efficiency and maintaining earnings, liquidity SBI definitely needs to work on its weak points to score better on the CAMEL Model. The following table indicates this :

	SBI	HDFC
C	2	1
A	2	1
M	2	1
E	2	1
L	2	1
Mean	2	1
Rank	2	1

Alternative Hypothesis is accepted. There is significant difference in performance of SBI and HDFC bank assessed by CAMEL model.

V. FINDINGS OF THE STUDY:

1. Under the capital adequacy ratio HDFC Bank is lagging behind in the debt equity ratio

parameter when compared to SBI. So HDFC needs to correct this position .

2. In the Asset Quality SBI definitely needs to concentrate on creating better quality assets. The previous NPA effect is seen in the time period opted for the study also.
3. The Management Efficiency ratio of HDFC needs to rework on designing the roles and responsibilities of the employees when compared to SBI.
4. Under the Earnings capability HDFC has an upper hand when compared to SBIin all the three ratios showing the business earning of the bank.
5. The Liquidity ratio of HDFC indicates current ratio need to be improved as it has secured the second position. This shows that current assets aren't enough to payoff its current liabilities.

VI. CONCLUSION:

A sound financial system is important for a healthy and vibrant economy. The banking sector is the major component of Indian financial system, which plays a vital role in the economic development of the country. The present study analyzes and compares the financial performance of the public sector bank i.e., SBI and private sector bank i.e., HDFC bank. The analysis has been done based on CAMEL model. This model is a significant tool to assess the relative financial strength of a bank and to suggest necessary measures to improve weaknesses of a bank.CAMEL model is a ratio-based model to appraise the performance of the banks. To describe the various ratios which are helpful for the assessment of financial performance of banking sector. According to the analysis, both the banks are maintaining the required standards and running profitability. It can be concluded that in all the parameters i.e., capital adequacy, asset quality, management efficiency, earning capacity and liquidity of the CAMEL model Private Sector Bank i.e., HDFC bank is found to be better performer when compared to Public sector bank i.e., SBI for the study period.

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