ORIGINAL RESEARCH PAPER

Banking

A STUDY ON FINANCIAL PERFORMANCE OF STATE BANK OF INDIA AND HDFC BANK USING CAMELS MODEL

| Anamika Chowdhary	Student of Management, Centre for Innovative Studies, University of North Bengal.
Raj Das	Faculty of Commerce, Centre for Innovative Studies, University of North Bengal.

ABSTRACT

NPA is a very significant factor that affects the growth and development of any banking institutions in an economy. The present paper attempts to investigate the impact of Net Non- performing Assets (NNPAs) of selected leading banks by market capitalisation namely: State Bank of India (SBI) and HDFC Bank. The study has been conducted for a time period ranging from FY2008-09 to FY2021-22. For the purpose of conducting the research the data has been collected from secondary sources such as annual reports, journals, etc. Correlation analysis has been used to compute the relationship between Net Non Performing Assets (NNPAs) and profitability of selected banks and regression analysis has been incorporated to find out the causal impact between them. More interestingly, this paper also uses CAMEL model to access the financial strengths of both banks for five financial years covering FY18 to FY22.

INTRODUCTION

India (RBI) is the apex body of the Indian Banking sector. The Banking sector is one of the vital components of the financial system. It has a strong impact on the economic development and growth of a nation. The sector provides financial services not only to the industry but also to the agriculture and household sectors. It also plays important role in formation of capital in an economy. This study deals with the analysis of the financial position and performance of public sector bank (SBI) and private sector bank (HDFC) in India. HDFC Bank is an Indian multinational banking and financial services company. HDFC Bank was established as housing development finance corporation bank in 1994.It offer services in credits and cards, consumer banking finance and insurance, investment banking, mortgage loans, private banking, private equity and wealth management.
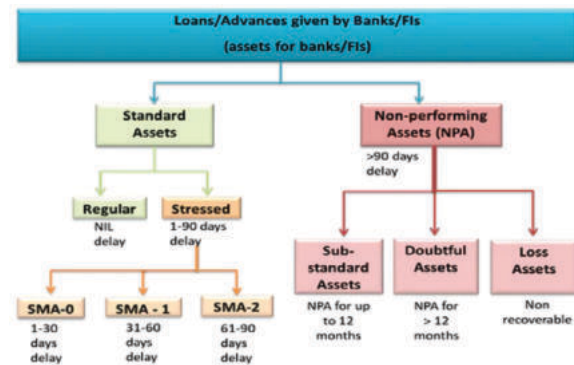
Classification of NPA
Types of NPA :

1. Gross NPA: Gross NPA denotes the total of all the loan assets that haven't been repaid by the borrowers within the ninety days in banking. It can be calculated by following ratios Gross NPAs Ratio =GROSS NPAs /Gross advances*100.
2. Net NPA: Net NPA is the amount obtained on deducting provisions from gross NPA . It can be calculated by Net NPAs =Gross NPAs – Provision on Gross advances.

Objective of research

1. To understand the concept of NPA along with its classification
2. To know the reasons that has contributed to the growth of NPA among the selected banks.
3. To examine the impact of NNPA over profitability of State Bank of India.
4. To examine the impact of NNPA over profitability of HDFC Bank.
5. To access the financial strengths of both banks using CAMEL model.

Research Methodology

The growth of financial sector of any economy largely depends upon the banking sector of a country. In order to conduct the research the data for analysis has been extracted from various sources such as published annual reports, journals, websites, periodicals, etc has been used. The study period for which the research has been conducted covers a period starting from 2017-18 to 2021-22. The banks selected for our analysis are: State Bank of India (SBI) and HDFC Bank. One Public Sector Bank (PSB) and Private Sector Bank (PVB) mentioned has been selected based on highest market capitalisation. CAMEL model has been used to evaluate the financial status of both SBI and HDFC Bank.

The analysis of relationship between Net NPA and profitability of both SBI and HDFC Bank has been tested using SPSS statistical software. The output obtained using correlation analysis will be used to access the relationship among variables and the output of regression analysis will be used to find out the causal relationship between mentioned variables.

Table 1. Camel Model

SHORT FORM	Parameters of CAMEL	Ratio Of measuring CAMEL Parameters.
C	Capital Adequacy	Capital Adequacy Ratio Debt Equity Ratio
A	Asset quality ratio	Asset turnover Ratio Net NPA to Net Advance Ratio
M	Management Efficiency	Credit Deposit Ratio Return On Equity
E	Earning Ability	Net Profit Ratio Dividend Per Share Earnings Per Share Return On Assets
L	Liquidity	Current Ratio
S	Sensitivity to market	Total securities

Camel Model:
Camel model ratios are calculated in order to evaluate the financial performance of the banks .Its stands for Capital Adequacy, Asset quality, Management, Earning and liquidity.

Capital Adequacy Ratio:
Capital Adequacy Ratio also known as the Capital to Risk (Weighted) Ratio indicates the ratio of banks capital against

its Risk Weighted Assets. The Capital Adequacy Ratio of any banks is computed by summing a bank's Tier I capital and Tier II capital and the total is further divided by its total Risk Weighted Assets. The following is the formula to compute the Capital Adequacy Ratio of banks:

Formula:
Capital Adequacy Ratio = [(Tier 1 Capital + Tier 2 Capital)/Risk Weighted Capital]

Table 2: CAR (capital Adequacy Ratio) of SBI & HDFC Bank during the year 2018-2022:

Financial year	CAR (SBI)	CAR (HDFC)
Mar 31, 2018		14.82%
Mar 31, 2019	12.85%	17.11%
Mar 31, 2020	13.13%	18.52%
Mar 31, 2021	13.73%	18.79%
Mar 31, 2022	13.83%	18.9%

Average:

Name of Banks	5-Year Average	3-Year Average	1-Year Average
SBI Bank	13.26%	13.56%	13.83%
HDFC Bank	17.62%	18.73%	18.90%

Interpretation:
As per regulatory norms a PSBs should have a (CAR) Capital Adequacy Ratio of 12% and PVBs is required to maintain a (CAR) Capital Adequacy Ratio of 9%. Generally, a higher Capital Adequacy Ratio is considered good because it helps banks to deal with unexpected losses in the presence of adequate capital in banks. We found that the average 5-year CAR for SBI is 13.26% and for HDFC Bank it is 17.62% which is higher than benchmark standards set in regulatory norms. It was also found that the CAR for FY22 as compared to FY21 showed a marginal surge in both the cases of SBI and HDFC Bank, indicating that both the banks have a maintained Capital Adequacy Ratio.

2. Debt Eqity Ratio:
The debt equity ratio is a financial metrics that helps to evaluate any company's financial leverage and is generally calculated by dividing the company's total debt by its total shareholders' equity. The following formula is used to compute Debt to Equity Ratio:

Formula:
Debt to Equity Ratio = Total Liabilities/Total Equity.

Table3. Debt equity ratio of SBI Bank & HDFC Bank during the year 2018-2022:

Financial year	Debt equity ratio of SBI	Debt equity ratio of HDFC
Mar31,2018	1.65	1.16
Mar31,2019	1.82	0.78
Mar31,2020	1.32	0.85
Mar31,2021	1.57	0.85
Mar31,2022	1.46	0.92

Average:

Name of Banks	5-Year Average	3-Year Average	1-Year Average
SBI Bank	1.564	1.45	1.46
HDFC Bank	0.91	0.87	0.92

Interpretation:
According to industry standards a debt-to-equity ratio of 2 or less than 2 is considered good. However, it is desirable to have a debt-to-equity ratio of 1.5 or lower. We found the 5-year average debt-to-equity ratio of SBI Bank is at 1.564 and in case of HDFC Bank the 5-year average debt-to-equity ratio is 0.91. In both the cases the debt-to-equity ratio is below than the industry standards indicating that the banks have more assets than liabilities making it less risky. However, we also conclude that HDFC Bank has less debt as compared to SBI Bank.

3. Asset Turn Over Ratio:
Asset turnover ratio evaluates a company's ability to generate sales in relation to its assets. This profitability ratio tells about how efficiently a company is utilizing its asset to generate sales, higher the value of the asset turnover ratio is better is the performance of the company. The formula used to compute asset turnover ratio is:

Formula:
Asset Turnover Ratio =Net sales /average Total Assets

Table 4: Asset Turns Over Ratio Of Hdfc & Sbi Bank During The Year 2018-2022:

Financial year	Asset turnover ratio SBI	Asset turnover ratio HDFC
Mar31,2018	0.12	0.154
Mar31,2019	0.13	0.162
Mar31,2020	0.12	0.154
Mar31,2021	0.115	0.143
Mar31,2022	0.108	0.128

Average:

Name of Banks	5-Year Average	3-Year Average	1-Year Average
SBI Bank	0.1198	0.114	0.11
HDFC Bank	0.14	0.14	0.13

Interpretation:
Generally, a good Asset Turnover ratio of 1 or more is considered good. The higher the ratio the better the banks are able to utilize its owned assets to generate more revenue. It also indicates that the banks are earning more revenue by effectively using its resources. From the table above, it was found that the 5-year average asset turnover ratio calculated for both SBI Bank and HDFC Bank is below 1 which is not a good indication. The study also found a marginal fall in its Asset Turnover ratio in FY22 as compared to FY21 from 0.12 to 0.11 in case of SBI and in case of HDFC Bank it reduced from 0.14 to 0.13. Therefore, we suggest both the banks to improve its asset turnover ratio.

4. Net Npa To Net Advances:
Net NPA to net advances is a ratio that measures a bank's assets quality by comparing its net non–performing assets (NPAs) to its net advances. A lower ratio indicates a healthier assets quality and a lower risk of loan defaults. The following formula is used to calculate Net NPA to Net advances is:

Formula:
Net NPA to Net advances = Total NPA/Total Advances*100

Table 5: Net Npa To Net Advances Of Hdfc & Sbi Bank During The Year 2018-2022:

Financial year	Net NPA to Net advances SBI	Net NPA to Net advances HDFC
Mar31,2018	5.69	0.20
Mar31,2019	2.97	0.28
Mar31,2020	2.20	1.08
Mar31,2021	1.48	1.66
Mar31,2022	1.00	1.42

Average:

Name of Banks	5-Year Average	3-Year Average	1-Year Average
SBI Bank	2.64	1.56	1.00
HDFC Bank	0.92	1.38	1.42

Interpretation:
The NPA to Net Advances ratio indicates the proportion of non- performing assets relative to the bank's total advances. It

gives information regarding that how much total advances are irrecoverable. We found that 5 years average NPA to Net Advance ratio for HDFC Bank is lower than that of SBI Bank. But, a YOY analysis shows that, it is the SBI Bank which is able to reduce its NPA to Net advances ratio over the period of time.

5. Credit Deposit Ratio:

Credit deposit ratio also known as loan to deposit ratio is the ratio which determines how much a bank give loans in comparison to the deposits it has mobilized. It helps in assessing bank liquidity and indicates its assets. **The formula used to calculate credit to deposit ratio is: and indicates**

Formula:
Credit Deposit Ratio = Total Loans / Total Deposits

Table 6: CREDIT DEPOSIT RATIO OF HDFC &SBI Bank during the year 2018-2022:

Financial year	Credit deposit ratio SBI	Credit deposit ratio HDFC
Mar31,2018	71	83
Mar31,2019	75	88
Mar31,2020	71	86
Mar31,2021	66	84
Mar31,2022	67	87

Average:

Name of Banks	5-Year Average	3-Year Average	1-Year Average
SBI Bank	70	68	67
HDFC Bank	85.6	85.6	87

Interpretation:
According to industry average a Credit deposit ratio standing at 70% to 75% is considered good. The above table depicts that the 5-years average credit deposit ratio of SBI Bank stood at 70 but however the recent trends shows a marginal fall in its Credit Deposit ratio. SBI Bank Credit Deposit ratio has reduced from 71% in FY18 to 67% in FY22. Therefore, we suggest that the SBI Bank can do much more in terms of its credit deposit ratio and should maintain it somewhere around 70% to 75% on YOY basis. A low Credit Deposit ratio indicates that the banks may not be earning as much as they could. However, an inspection to the Credit Deposit ratio of HDFC Bank revealed that the 5-years average credit deposit ratio at 85% which is above the industry average indicating that HDFC Bank has a high Credit Deposit ratio and can affect the liquidity position of bank used to cover any unforeseen fund requirements. A very high credit deposit ratio may also affect the capital adequacy and shows HDFC Bank's heavy reliance on its deposits for lending purposes that can be risky. Therefore, we suggest that HDFC Bank should reduce its Credit Deposit ratio to 75% or below.

6. Return On Equity:

Return on equity (ROE) measures financial performance of the bank. It is calculated by dividing net income by shareholder equity. A high return on equity makes it attractive for investors to not only invest in the business but also reinvest profits back into the business instead of paying out profits as dividends. The formula used to calculate return on equity is:

Formula:
Return on Equity = Net income – Preferred Dividend / Average Shareholder's Equity.

TABLE 7: RETURN ON EQUITY OF SBI & HDFC BANK during the year 2018-2022:

Financial year	Return on equity SBI	Return on equity HDFC
Mar31,2018	-3.78%	16.3%
Mar31,2019	0.48%	16.3%
Mar31,2020	7.74%	16.76%
Mar31,2021	9.94%	16.6%
Mar31,2022	13.94%	16.9%

Average:

Name of Banks	5-Year Average	3-Year Average	1-Year Average
SBI Bank	11.64%	10.54%	13.94%
HDFC Bank	16.57%	16.75%	16.90%

Interpretation:
As per the industry standard, generally a ROE of 15% or more is considered good. From the table above; it was found that the 5-years average ROE in case of SBI Bank is 11.64%. On YOY basis, in FY18 the ROE was at -3.78% which further improved to 0.48% in FY19 and further in FY20, FY21 and FY22 the reported ROE showed a huge surge and it further stood at 7.74%, 9.94% and 13.94% respectively. Therefore, we conclude that in term of ROE, the SBI Bank performance has improved on YOY basis but however the ROE of SBI Bank is not that encouraging and can affect the bank's ability to generate profits. In case of HDFC Bank, we found an acceptable level of ROE. The 5-year average of ROE in HDFC Bank is at 16.57% and it further improved on YOY basis in FY22 as compared to previous financial years. Therefore, HDFC Bank has shown improvement in its ROE, indicating that the bank has a good ability for generating profits in future as well.

Net Profit Ratio:

Net profit ratio also known as Net profit margin ratio is a financial ratio that measures a percentage of company's profitability in relation to its revenue. The formula used to calculate Net profit ratio is:

Formula:
Net Profit Ratio = Net profit / Net Sales*100

Table 9: Net Profit Ratio Of SBI & HDFC Bank:

Financial year	Net profit ratio SBI	Net profit ratio HDFC
Mar31,2018	-2.85	21.76
Mar31,2019	0.34	21.34
Mar31,2020	5.36	21.33
Mar31,2021	7.33	24.78
Mar31,2022	10.92	28.06

Average:

Name of Banks	5-Year Average	3-Year Average	1-Year Average
SBI Bank	4.22	7.87	10.92
HDFC Bank	23.45	24.72	28.06

Interpretation:
A good Net profit Ratio for commercial bank is typically considered to be within the range of 15% to 20%. In case of SBI the 5-years average ratio is 4.22% which indicates that SBI has not been able to maintain a reasonable level of profitability in comparison to its revenue. However, it can be seen from the table above that SBI Bank Net profit ratio has drastically improved on YOY basis and shows an increasing trend in FY19, FY20, FY21 and FY22 as compared to FY18. Whereas, in case of HDFC Bank the 5-years average ratio is 23.45% it indicates that HDFC Bank has been able to maintain high level of profitability in comparison to its revenue. The study also revealed a surge in net profits of HDFC Bank on YOY basis.

8. Dividend Per Share:

Dividend per share is the sum of all dividends issued by each individual share of company's outstanding shares. It measures the portion of a company's earning that is paid out to shareholders. It can be calculated by dividing the total dividend by the number of outstanding shares. The following formula is used to calculate dividend per share:

Formula:
DIVIDEND PER SHARE = Annual Dividend /No. of Shares

Table 10. Dividend Per Share Of SBI & HDFC BANK:

Financial year	Dividend per share SBI	Dividend per share HDFC
Mar31,2018	0	6.5
Mar31,2019	0	7.5
Mar31,2020	0	0
Mar31,2021	4	6.5
Mar31,2022	7.1	15.5

Average:

Name of Banks	5-Year Average	3-Year Average	1-Year Average
SBI Bank	2.22	3.7	7.1
HDFC Bank	7.2	7.3	15.5

Interpretation:
A dividend per share of SBI Bank for FY18, FY19 and FY20 is nil but however in FY21 SBI Bank has declared a dividend of Rs.4 and further in FY22 it declared a dividend per share of Rs.7.1. In case of HDFC Bank, we found that only in FY20, the bank has not given any dividend but as far as other financial year is concerned, HDFC Bank was found consistent in terms of paying dividend to its shareholders. HDFC Bank dividend per share in FY18, FY19, FY20 and FY22 stands at Rs.6.5, Rs.7.5, Rs.6.5 and Rs.15.5.

9. Earning Per Share:
Earnings per share (EPS) are an important financial metrics indicating company's profitability. If the EPS of a company is high it will profitable whereas if the EPS of a company is low it would be negative. It is calculated by subtracting preferred dividends by the number of outstanding shares. The following formula is used to calculate earnings per share:

Formula:
EARNING PER SHARE = Net income –Preferred Dividend /Weighted Average Number of Shares Outstanding

Table 11: Earning Per Share Of SBI & HDFC BANK:

Financial year	Earnings per share of SBI	Earnings per share of HDFC
Mar31,2018	-7.67	35.66
Mar31,2019	0.97	41
Mar31,2020	16.23	49.7
Mar31,2021	22.87	57.74
Mar31,2022	35.49	68.62

Average:

Name of Banks	5-Year Average	3-Year Average	1-Year Average
SBI Bank	13.57	24.86	35.49
HDFC Bank	50.54	58.68	68.62

Interpretation:
As per the industry standards, generally a bank having growth rate in its EPS between 25% to 30% is considered good. In case of SBI Bank, we found an average 5-year EPS to be Rs.13.57. In terms of growth in its EPS, it was found that SBI Bank's EPS in FY19 has shown a huge surge as compared to FY18, i.e. from Rs.-7.67 in FY18 to Rs.0.97 in FY19. The EPS of SBI Bank has improved significantly over the past 3 years i.e. in FY20, FY21 & FY22, where the 3-years average stand at Rs.24.06. In terms of growth rate in EPS, we found that in the recent time in FY21 the EPS has grown by 35.88% as compared to FY20 and further it increased to 46.43% in FY22 as compared to FY21, therefore SBI Bank is doing good in terms of its EPS. However, in case of HDFC Bank the EPS is very high, the 5-year EPS stands at Rs.50.54, indicating that the company is more valuable to its shareholders and is likely to distribute dividends to its shareholders out of its extra profits. In terms of growth in its dividend, we found that in FY22, the

dividend grew by 55.2% as compared to FY21 and in FY21, it grew by 16.18% as compared to previous financial year. Overall, both the banks have a good growth in it's EPS in current FY as compared to its past performance in terms of EPS.

10. RETURN ON ASSETS:
Return on assets is a measure that shows how well a business is utilizing its assets to generate profits. A low ROA suggest that the management may not be effectively using the assets, whereas a high ROA indicates that the business is operating efficiently and effectively. In summer, ROA is a useful indicator of a company's asset management performance. The formula used to calculate return on assets is:

Formula:
RETURN ON ASSETS = EBIT/Average Total Assets

Table 13: Return On Assets Of SBI & HDFC BANK

Financial year	Return on assets SBI	Return on assets HDFC
Mar31,2018	-0.19	1.64
Mar31,2019	0.23	1.69
Mar31,2020	0.37	1.71
Mar31,2021	0.45	1.78
Mar31,2022	0.63	1.78

Average:

Name of Banks	5-Year Average	3-Year Average	1-Year Average
SBI Bank	0.256	0.48	0.63
HDFC Bank	1.72	1.75	1.78

Interpretation:
A good ROA for commercial bank is typically considered to be within the range of 1% to 1.5%. In case of SBI Bank the 5-years average ratio is 0.256 which indicates that SBI has not been able to effectively draw upon assets to generate income. Whereas, in case of HDFC Bank the 5-years average ratio is 1.72 which indicates that HDFC Bank has been successful in managing its assets.

Current Ratio:
The current ratio is a financial ratio used by businesses to determine their ability to meet short-term debts within a year. It shows how effectively a company can use its current assets to settle it current liabilities owed to creditors. To calculate the current ratio the total value of a company's current assets is divided by the value of its current liabilities. The formula used to calculate current ratio is:

Formula:
CURRENT RATIO = Current Assets /Current Liabilities

Table 13: Current Ratio Of SBI & HDFC BANK:

Financial year	Current ratio SBI	Current ratio HDFC
Mar31,2018	0.81	0.78
Mar31,2019	0.94	0.86
Mar31,2020	0.90	0.8
Mar31,2021	0.88	0.63
Mar31,2022	0.69	1.01

Average:

Name of Banks	5-Year Average	3-Year Average	1-Year Average
SBI Bank	0.84	0.82	0.69
HDFC Bank	0.81	0.81	1.01

Interpretation:
According to industry average a current ratio standing as 1.2 to 2 considered as good. A current ratio of 2 indicates that the bank have 2 times more current assets than its liabilities to meet its short-term debts. Over the past five years, the SBI Bank's 5-years average current ratio is 0.84, which is below 1,

which means that SBI Bank have insufficient assets to pay its liabilities. However, in case of HDFC Bank we found the 5-years average current ratio to be at 0.81, which is again below 1. But in FY22 it showed a sign of recovery where the current ratio for HDFC Bank in FY22 is at 1.01. Overall, in both the cases the current liabilities were relatevely higher than its current assets.This could be a sign that the bank might face difficulty in meetings its short-term financial obligations. In simplier terms the banks may have trouble paying its bills on time.

Table 14: Rating Base Of Camels Components :

Camels rating components	Rating 1	Rating 2	Rating 3	Rating 4	Rating 5
Capital Adequacy ratio	>15%	12% - 14.99%	8% - 11.99%	7% - 7.99%	6%- 6.99%
Assets quality ratio	<1.25 %	<2.5% - 1.26%	<3.5% - 2.6%	<3.5% - 3.6%	<5.6%
Management	<25%	30% - 26%	38% - 31%	45% - 39%	>46%
Earnings (ROA)	>1%	0.9% - 0.8%	0.35%- 0.7%	0.25% - 0.34%	<0.24%
ROE	>22%	17% - 21.99%	10% - 16.99%	7% - 9.99%	<6.99%
Liquidity Ratio L1	<0.55 %	0.62% - 0.56%	0.68% - 0.63%	0.80% - 0.69%	>0.81%
Liquidity Ratio L2	>50%	45% - 49.99%	38% - 44.99%	33% - 37.99%	<32%
Sensitivity Ratio	<25%	30% - 26%	37% - 31%	42% - 38%	>43%

Note: Table 15 shows, ratings assigned from 1 (best) to 5 (worst) for each of the listed categories.

TABLE 15: Compostite Ratings:

Name of Banks	C	A	M	E		L		S	Total Ratings	Ranks
				ROA	ROE	L1	L2			
PSB: SBI	2	3	5	4	4	1	5	2	26	2
PVB: HDFC	1	1	5	1	3	5	5	1	22	1

The banks considered for research purpose namely State Bank of India and HDFC Bank were ranked on the basis of their total component score attained by them. A bank with lower score is considered better in terms of rankings. It is the HDFC Bank which tops with better performance followed by SBI bank. The list of banks stated above had a better performance in terms of almost all components of CAMELS rating system and is rated on the basis of individual component ratings and therefore they have a lower total for components ratings and secured a better rank. These banks maintain a better performance; risk management practices and has an excellent quality of management that maintains good levels of liquidity. These banks have satisfactory level of CAR and quality of assets for the past 5 years. However, SBI Bank was ranked lower than HDFC Bank in the ranking table due to their negative earnings in FY18 and mostly due to the mounting NPA and inefficient management in utilizing their bank's assets.

Hypothesis:
H1: There is a significant impact of Net NPA's over profitability of SBI Bank.
H2: There is a significant impact of Net NPA's over profitability of HDFC Bank.

Table 16, shows the correlation coefficient between Net NPA over the Net Profitability of SBI Bank and HDFC Bank over a period covering FY: 2008 to FY: 2022:

SBI Bank			HDFC Bank		
Financial Years	Net profit	Net NPA	Financial Years	Net Profit	Net NPA
31ˢᵗ Mar, 2008	6,729	0	31ˢᵗ Mar, 2008	1590.2	29852
31ˢᵗ Mar, 2009	9,121	11,191.26	31ˢᵗ Mar, 2009	2245	62762
31ˢᵗ Mar, 2010	9,166	1,961.09	31ˢᵗ Mar, 2010	2948.7	39463
31ˢᵗ Mar, 2011	8,265	2,443.69	31ˢᵗ Mar, 2011	4025	29862
31ˢᵗ Mar, 2012	11,707	4,417.76	31ˢᵗ Mar, 2012	5277	354.19
31ˢᵗ Mar, 2013	14,105	6,143	31ˢᵗ Mar, 2013	6903	491.01
31ˢᵗ Mar, 2014	10,891	10,719	31ˢᵗ Mar, 2014	8768	8783.8
31ˢᵗ Mar, 2015	13,102	37,813.96	31ˢᵗ Mar, 2015	10703	9884.9
31ˢᵗ Mar, 2016	9,951	69,809.03	31ˢᵗ Mar, 2016	12821	896.28
31ˢᵗ Mar, 2017	10,484	3,995.46	31ˢᵗ Mar, 2017	15317	1320.37
31ˢᵗ Mar, 2018	-6,547	11,0854.7	31ˢᵗ Mar, 2018	18561	2601.02
31ˢᵗ Mar, 2019	862	65,894.74	31ˢᵗ Mar, 2019	22446	3214.52
31ˢᵗ Mar, 2020	14,488	51,871.3	31ˢᵗ Mar, 2020	27296	3542.36
31ˢᵗ Mar, 2021	20,410	36,809.72	31ˢᵗ Mar, 2021	31857	4554.82
31ˢᵗ Mar, 2022	31,676	27,965.71	31ˢᵗ Mar, 2022	38151	4407.68
Correlation coefficient	-0.37748		Correlation coefficient	-0.54892	

Table 16, shows the correlation between Net NPA and the Net profit of SBI Bank and HDFC Bank for the past 15 years covering FY:2008 to FY:2022. The computed correlation coefficient in case of SBI Bank is -037748; which indicates a low degree of negative correlation. However, in case of HDFC Bank it was found that the computed correlation coefficient is -054892; indicating a moderate degree of negative correlation. Therefore, in both the cases it was found that there exists an inverse relationship between Net NPA and Net Profits of banks.

Table 17, Regression coefficients of Net NPA and Profitability of HDFC and SBI Banks:

Name of the banks	P- value	R square	F (1,13)
SBI BANK	0.127552	0.182563	2.680029
HDFC BANK	0.034079*	0.301308	5.606195**
Note: N = 5			

* implies the hypothesis is rejected at 5% level of significance.
** F (1,13); implies that the computed value is greater than critical value.

Table 17 shows that a regression analysis was conducted to examine the relationship between the Net NPA of SBI Bank and HDFC Bank and their respective Net profitability over a 15-year time period. For the SBI bank, the obtained R^2 value 0.182563, which indicating 18.25% variability on the outcome variable is due to explanatory variable with $F(1,13) = 2.680029$, $p>0.05$. Therefore, we accept the null hypothesis (H0) indicating that the Net profitability of SBI was not impacted due to NPA. However, the R^2 value in case of HDFC Bank is 0.301308; that reveals 30.13% variability in the Net profitability is due to Net NPA with $F(1,13) =5.606195$, $p<0.05$. Therefore, in case of HDFC Bank we have sufficient evidence to reject the null hypothesis and conclude that the Net profit of HDFC Bank got impacted due to NPA.

CONCLUSION:
This report attempts to analyze and compare the performance of two different bank of India i.e. SBI and HDFC Bank. The analysis is built upon CAMEL MODEL. The study also used correlation and regression analysis to test the relationship between variables for a period of 15-years i.e. from FY08 to FY22. The study has revealed many interesting insights such as after analyzing 5-years average data of both SBI and HDFC Bank, both the banks mentioned above performed well in almost all aspects of the CAMEL rating system. However, SBI Bank received a lower ranking compared to HDFC Bank in the ranking table. To improve its ranking, SBI Bank should focus on reducing non-performing assets, improving risk management, optimizing asset utilization, enhancing profitability, strengthening governance, and leveraging technology. The regression output of HDFC Bank showed that the Net profit of HDFC Bank got impacted due to NPA. Whereas in case of SBI the report showed that Net profitability of SBI was not impacted due to NPA.

REFERENCES

1. Manu, K. S., & Maheshwari, R. (2018). Relationship between Non-Performing Assets (NPA) and Profitability of Development Banks: The Case of India. *Asian Journal of Research in Banking and Finance*, *8*(6), 99-111.
2. Bansal, R., & Mohanty, A. (2013). A Study on financial performance of commercial banks in India Application of Camel model. *Al-Barkaat Journal of Finance & Management*, *5*(2), 60-79.
3. Kumar, V., & Malhotra, B. (2017). A Camel Model Analysis Of Private Banks In India. *EPRA International Journal of Economic and Business Review*, *5*(7), 87-93.
4. Dudhe, C. (2017). Impact of Non-Performing Assets on the profitability of banks–A selective study. *THE ANNALS OF THE UNIVERSITY OF ORADEA*, 307.
5. Narula, S., & Singla, M. (2014). Empirical study on non-performing assets of bank. *International Journal of advance Research in Computer science and management studies*, *2*(1).