DATA ANALYSIS AND INTERPRETATION

1. RATIO ANALYSIS:

1.1. NON-PERFORMING ASSETS (NPA) RATIO ANALYSIS:

Table showing Ratio Analysis of NPAs on FY 2019-20 to FY 2023-24

FINANCIAL METRICS	2019-20	2020-21	2021-22	2022-23	2023-24
Gross NPA Ratio	6.41%	5.16%	4.10%	2.84%	2.28%
Net NPA Ratio	2.23%	1.50%	1.02%	0.67%	0.57%
Provision Coverage Ratio (PCR)	65.21%	70.88%	74.86%	76.18%	74.79%
Slippage Ratio	2.19%	1.18%	0.92%	0.58%	0.55%
Recovery Ratio	49.70%	47.90%	76.65%	75.73%	54.50%

INTERPRETATION:

The GNPA and NNPA ratio have consistently declined over the five-year period, indicating improved asset quality and effective management of NPAs, i.e., the **GNPA ratio** reduced from **6.41% in 2019-20 to 2.28% in 2023-24**, while the **NNPA ratio** declined from **2.23% to 0.57%** during the same period.

The **Provision Coverage Ratio (PCR)** has risen since **2019-20 (65.21%)**, reaching **74.79% in 2023-24**, which indicates that the bank is allocating appropriate provisions to cover NPAs, while this may improve profitability.

The **Slippage Ratio** has steadily declined, particularly over the last three years, dropping from **1.18% in 2020-21 to 0.55% in 2023-24**. This trend signifies that fewer loans are turning into NPAs each year, leading to an increase in Standard Advances.

The **Recovery Ratio** has fluctuated over the years, with a notable increase in **2021-22 (76.65%) and 2022-23 (75.73%)**, followed by a decline in **2023-24 (54.50%)**. This drop implies that the bank's ability to recover NPAs has weakened in the latest year. However, the average **recovery rate remains around 60%**, reflecting financial stability despite the recent decline in recoveries.

1.2. PROFITABILITY RATIO ANALYSIS:

Table showing Ratio Analysis of Profitability on FY 2019-20 to FY 2023-24

FINANCIAL METRICS	2019-20	2020-21	2021-22	2022-23	2023-24
EBT Margin	8%	9%	14%	18%	18%
Net Profit Margin	5%	7%	10%	14%	13%
Operating Profit Margin	23%	23%	21%	23%	19%
Return on Equity (ROE)	6.24%	8.04%	11.31%	15.33%	16.19%
Return on Assets (ROA)	0.38%	0.48%	0.67%	0.96%	1.04%
Return on Debt (ROD)	4%	6%	8%	11%	11%

INTERPRETATION:

The **EBT Margin** has steadily improved from **8% in 2019-20 to 18% in 2023-24**, while the **Net Profit Margin (NP Margin)** increased from **5% to 13%** during the same period. This reflects strong financial performance and consistent profitability growth.

The **Operating Profit Margin** remained stable at **23% in 2019-20 and 2020-21**, slightly declined to **21% in 2021-22**, recovered to **23% in 2022-23**, but dropped to **19% in 2023-24**. This decline in the last year suggests increased operating costs or reduced efficiency in banking operations.

The **ROE and ROA** have shown steady growth, with **ROE rising from 6.24% in 2019-20 to 16.19% in 2023-24** and **ROA improving from 0.38% to 1.04%** in the same period. This indicates that the bank is efficiently utilizing its assets and shareholders' equity to generate profits.

The **ROD** has increased from **4% in 2019-20 to 11% in 2023-24**, highlighting the bank’s ability to generate higher returns from borrowed funds, likely through effective debt recovery and management.

1.3. ADVANCES RATIO ANALYSIS:

Table showing Ratio Analysis of Advances on FY 2019-20 to FY 2023-24

FINANCIAL METRICS	2019-20	2020-21	2021-22	2022-23	2023-24
Growth Rate in Advances	6%	5%	12%	17%	16%
Yield on Advances (YoA)	8%	7%	6%	7%	8%
ADR ratio	72%	67%	67%	72%	75%

INTERPRETATION:

The **Growth Rate in Advances** has shown an upward trend, especially in the last three years, rising from **5% in 2020-21 to 16% in 2023-24**, indicating strong credit expansion and increased lending activity, which contributes to revenue generation.

The **Yield on Advances (YoA)** fluctuated over the years, dropping from **8% in 2019-20 to 6% in 2021-22**, before recovering to **8% in 2023-24**. This suggests that the bank has been able to maintain or improve its interest income from loans despite market fluctuations.

The **ADR Ratio** declined from **72% in 2019-20 to 67% in 2020-21 and 2021-22**, before increasing again to **75% in 2023-24**, indicating that the bank is utilizing a higher proportion of its deposits for lending, which can enhance profitability.

2. CORRELATION ANALYSIS:

2.1. PROFITABILITY METRICS VS NPA METRICS:

***H_0* –** There is no correlation between the Profitability Metrics and NPA Metrics.

***H_1* –** There is a correlation between the Profitability Metrics and NPA Metrics.

Table showing Correlation Analysis between Profitability and NPAs

Variables	Pearson's r	p-value
EBT - GNPA	-0.973 **	0.005
NP - GNPA	-0.975 **	0.005
EBT - PCR	-0.94 *	0.018
NP - PCR	-0.952 *	0.012
NP - NNPA	-0.962 **	0.009
ROA - GNPA	-0.983 **	0.003
ROE - GNPA	-0.989 **	0.001

INTERPRETATION:

Based on the correlation analysis, all the r-values are negative, means that as one variable increases, the other tends to decrease significantly, which signifies a nearly perfect negative linear relationship between them. Also, the p-values are below 0.05 and 0.01, confirming the statistical significance of these correlations.

- The negative correlation between EBT & NP with GNPA suggests that as GNPAs increase, both EBT and NP decline. This implies that higher non-performing assets adversely impact the bank's earnings.
- The correlation between EBT & NP with PCR indicates that allocating provisions to cover NPAs affects earnings and profitability.
- The negative correlation between NP & NNPA signifies that even after provisioning, net NPAs continue to impact net profits.
- An increase in GNPA negatively affects the bank's returns, as seen in the strong negative correlation between ROA & ROE with GNPA.

2.2. ADVANCE METRICS VS NPA METRICS:

***H_0* –** There is no correlation between Advances Metrics and NPA Metrics.

***H_1* –** There is a correlation between Advances Metrics and NPA Metrics.

Table showing Correlation Analysis between Advances and NPAs

Variables	Pearson's r	p-value
GR in Advances - GNPA	-0.928 *	0.023
GR in Advances - NNPA	-0.89 *	0.043
GR in Advances - Slippage Ratio	-0.805	0.1

INTERPRETATION:

Based on the correlation analysis, all the r-values are negative, indicates an inverse relationship between the variables, which signifies a nearly perfect negative linear relationship between them. The p-values for GR in Advances with GNPA and NNPA are below 0.05, meaning these correlations are statistically significant. However, the p-value for GR in Advances with the Slippage Ratio (0.1) is slightly above 0.05, indicating no significance.

- The negative correlation between GR in Advances with GNPA & NNPA suggests that as NPAs increase, the GR of Advances declines. This implies that rising NPAs limit the asset value from the Advances.
- The negative correlation between GR in Advances with the Slippage Ratio (i.e., more standard loans turn into NPAs) suggests that slippage ratio increases, the GR of Advances declines. Although the correlation is not as strong (p = 0.1), it indicates no significance.

2.3. SLIPPAGE RATIO VS NPA METRICS:

H_0 – There is no correlation between Slippage Ratio and other NPA Metrics.

H_1 – There is a correlation between Slippage Ratio and other NPA Metrics.

Table showing Correlation Analysis between Slippage Ratios and NPAs

Variables	Pearson's r	p-value
GNPA - Slippage Ratio	0.944 *	0.016
NNPA - Slippage Ratio	0.984 **	0.002
PCR - Slippage Ratio	0.959 **	0.01

INTERPRETATION:

Based on the correlation analysis, all the r-values are positive, indicates a direct relationship between the variables, which signifies a nearly perfect positive linear relationship between them. Also, the p-values are below 0.05 and 0.01, confirming the statistical significance of these correlations.

- The positive correlation between GNPA & NNPA with Slippage Ratio suggests that a higher slippage ratio leads to an increase in both GNPAs and NNPAs, meaning that more loans are turning into Non-Performing Assets.
- The positive correlation between PCR and Slippage Ratio suggests that as more loans turn into NPAs, the bank increases provisions to cover potential losses.

3. STRESS TESTING:

3.1. ASSUMPTIONS AND METHODOLOGY FOR STRESS TESTING:

Table showing Base & Assumption Values with Corresponding Parameter Changes – 1

GNPA	***Provisions***	***NNPA***
Base	*Approx. 47% - 49%*	*GNPA (-) Provisions*
20%	50%	GNPA (-) Provisions
40%	50%	GNPA (-) Provisions
60%	50%	GNPA (-) Provisions

Table showing Base & Assumption Values with Corresponding Parameter Changes – 2

GNPA	***T. ADV***	***TI***	***Provisions & Contingencies***	***ITR EXP***	***OP. EXP***
Base	*4.0256%*	*Base*	*36% to 40% are allocated for Provisions for NPA.*	*Base*	*Base*
20%	4.03%	-5%	40%	+2%	+5%
40%	4.03%	-10%	40%	+2%	+10%
60%	4.03%	-15%	40%	+2%	+15%

The base year for stress testing is 2023-24, with the Gross Non-Performing Assets (GNPA) value serving as the reference. The impact of increasing GNPA by 20%, 40%, and 60% was analyzed.

- In the base year, 47-49% of GNPA was covered by provisions. For the assumed scenarios, approximately 50% of GNPA was considered as provisions. The Net NPA (NNPA) was calculated as GNPA minus provisions.
- Total Advances were determined based on GNPA values, with the base year ratio being 4.0256%. For the assumed scenarios, GNPA by 4.03% was used to estimate Total Advances.
- As GNPA increases, Total Income declines. For every 20% increase in GNPA, Total Income is assumed to decrease by 5%, following the same pattern across other scenarios.

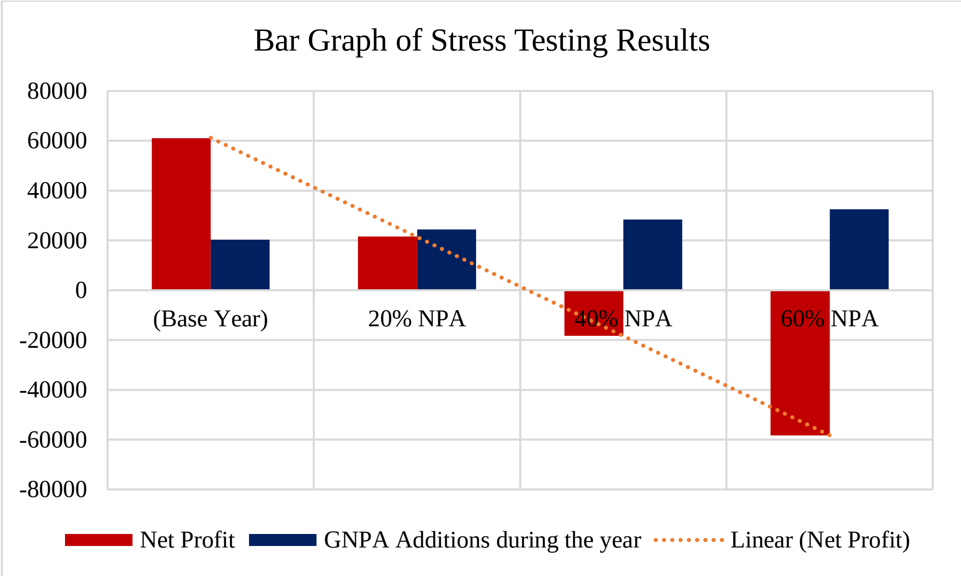
- Provisions for NPAs were estimated using historical trends, where 36% of total Provisions and Contingencies were allocated to NPAs in the base year. For stress testing, this percentage was adjusted to 40%. The total provisions were determined as 40% of Provisions and Contingencies.
- As GNPA rises, Total Advances and Income decrease, impacting Interest Expenses and Operating Expenses. Since GNPA changes have a minimal direct impact, a 2% increase in Interest Expenses was assumed across all scenarios. Due to higher costs associated with managing NPAs, Operating Expenses were assumed to increase by 5% per scenario.

3.2. STRESS TESTING RESULTS:

Table showing Stress Testing Results with Corresponding Parameters Changes

PARTICULARS	2023-24 (Base Year)	20% NPA	40% NPA	60% NPA
Income	466813	443472.35	420131.7	396791.05
Expenditures: *Interest Expended*	255255	260360.1	265567.30	270878.65
Operating Expenses	124861	131104.05	137347.1	143590.15
Provisions & Contingencies:	25621	30475.5	35554.75	40634
(Provisions for NPA)	9469	12190.2	14221.9	16253.6
Total Expenditure	405736	421939.65	438469.152	455102.798
Net Profit	**61077**	**21532.7**	**-18337.45**	**-58311.75**
GNPA Additions during the year	**20317**	**24380.4**	**28443.8**	**32507.2**
NNPA Additions during the year	**10846**	**12190.2**	**14221.9**	**16253.6**
Provisions for NPA during the year	**9469**	**12190.2**	**14221.9**	**16253.6**

Chart showing Bar Graph of Stress Testing Results - Net Profit with GNPA



INTERPRETATION:

The stress testing results highlight the direct impact of rising Gross Non-Performing Assets (GNPA) on declining Net Profit (NP).

- A **20% increase in GNPA** (24,380.4 from 20,317) results in a decline in Net Profit from Rs. 61,077 crores to Rs. 21,532.7 crores. Additionally, Net Non-Performing Assets (NNPA) increase from Rs. 10,846 crores to Rs. 12,190.2 crores, and Provisions for NPAs rise from Rs. 9,469 crores to Rs. 12,190.2 crores, indicating a proportional increase.
- A **40% increase in GNPA** (28,443.8 from 20,317) leads to a negative Net Profit of Rs. (-18,337.45) crores, showing a substantial impact on profitability. NNPA increases to Rs. 14,221.9 crores, while Provisions for NPAs rise to Rs. 14,221.9 crores.
- A **60% increase in GNPA** (32,507.2 from 20,317) results in a significant negative Net Profit of Rs. (-58,311.75) crores, indicating severe financial distress. NNPA further increases to Rs. 16,253.6 crores, and Provisions for NPAs rise to Rs. 16,253.6 crores.

In Overall, as NPAs rise, Net Profit consistently declines, potentially leading to financial instability. The bar graph *(Chart 7.3.2)* visually supports this trend, depicting an inverse relationship between GNPA and Net Profit. A linear trend line further demonstrates that continuous increases in GNPA will likely result in further declines in Net Profit, emphasizing the need for effective NPA management to sustain financial stability.

3.3. IMPACT OF STRESS TESTING ON FINANCIAL METRICS:

3.3a. Advances Adjusted with GNPA changes:

Table showing Financial Metrics with corr. changes in Advances

PARTICULAR	Base Year	20% NPA	40% NPA	60% NPA
Total Advances	**504701**	**605641**	**706581**	**807522**
FINANCIAL METRIC				
Net Profit Margin	13.084%	4.855%	-4.365%	-14.696%
GNPA ratio (GNPA/Total Advances)	4.026%	4.026%	4.026%	4.026%
NNPA ratio (NNPA/Total Advances)	2.149%	2.013%	2.013%	2.013%
PCR (Provisions for NPA/GNPA)	46.606%	50.00%	50.00%	50.00%

INTERPRETATION:

- Net Profit Margin **declines** significantly from 13.084% (Base Year) to -14.696% (60% NPA scenario), reflecting the adverse impact of increasing NPAs on profitability despite the rise in advances.
- The GNPA ratio **remains constant** at 4.026% across all stress levels since Total Advances increase proportionally with GNPA.
- The NNPA ratio also **remains stable**, fluctuating slightly between 2.149% and 2.213%, as NNPA changes in proportion to advances.
- PCR (Provision Coverage Ratio) stays **constant** at 50% from 20% NPA onwards, indicating a structured approach to provisioning.

3.3b. Advances Remain Unchanged:

Table showing Financial Metrics without corr. changes in Advances

PARTICULAR	**Base Year**	**20% NPA**	**40% NPA**	**60% NPA**
Total Advances	**504701**	**504701**	**504701**	**504701**
FINANCIAL METRIC				
Net Profit Margin	13.084%	4.855%	-4.365%	-14.696%
GNPA ratio (GNPA/Total Advances)	4.026%	4.831%	5.636%	6.441%
NNPA ratio (NNPA/Total Advances)	2.149%	2.415%	2.818%	3.220%
PCR (Provisions for NPA/GNPA)	46.606%	50.00%	50.00%	50.00%

INTERPRETATION:

- Net Profit Margin follows the same **declining trend**, falling from 13.084% to -14.696%, emphasizing that higher NPAs directly deteriorate profitability, regardless of changes in advances.
- GNPA ratio **increases progressively** from 4.026% (Base Year) to 6.426% (60% NPA scenario) due to GNPA growth while advances remain unchanged.
- NNPA ratio **rises** from 2.149% to 3.220%, indicating a worsening asset quality when advances are constant.
- PCR remains at 50% across all stress scenarios, demonstrating consistent provisioning against growing NPAs.

OVERALL KEY HIGHLIGHTS OF STRESS TESTING:

- As NPAs increase, Net Profit declines sharply, eventually turning negative at higher stress levels, indicating **financial distress.**
- A rise in Gross NPA (GNPA) leads to an increase in Net NPA (NNPA) and Provisions, impacting the bank's financial health.
- When Advances increase along with GNPA, NPA-related ratios remain stable, whereas keeping Advances unchanged results in worsening financial ratios.

4. REGRESSION ANALYSIS:

H_0 – There is no significant relationship between the Net Profit and GNPA.

H_1 – There is a significant relationship between the Net Profit and GNPA.

Table showing Output of Regression Analysis

Model	R	R^2	Adjusted R^2	RMSE
H_0	0	0	0	45100.753
H_1	0.958	0.917	0.897	14498.211

Table showing Output of Regression Analysis

Model		Sum of Squares	df	Mean Square	F	p
H_1	Regression	$9.330 \times 10^{+9}$	1	$9.330 \times 10^{+9}$	44.385	0.003
	Residual	$8.408 \times 10^{+8}$	4	$2.102 \times 10^{+8}$		
Total		$1.017 \times 10^{+10}$	5			

Table showing Output of Regression Analysis

Model		Unstandardized	Standard Error	Standardized	t	p
H_0	(Intercept)	14644.75	18412.305		0.795	0.462
H_1	(Intercept)	222231.641	31716.14		7.007	0.002
	GNPA Additions during the year	-8.354	1.254	-0.958	-6.662	0.003

INTERPRETATION:

From Regression Analysis table,

- **R^2 (0.917):** The model explains 91.7% of the variance in Net Profit based on GNPA additions.
- **Adjusted R^2 (0.897):** After adjusting for the number of predictors, the model still explains 89.7% of the variance, indicating a strong fit.
- **R (0.958):** This suggests a high correlation between Net Profit and GNPA Additions.
- **F-statistic (44.385):** A high F-value suggests a strong explanatory power of the model.
- **p-value (0.003):** The model is statistically significant ($p < 0.05$), meaning GNPA additions significantly impact Net Profit.
- **GNPA Additions (-8.354, p = 0.003):**
    - The negative coefficient suggests that as GNPA additions increase, Net Profit decreases.
    - For every 1 unit increase in GNPA additions, Net Profit decreases by 8.354 units.
    - The relationship is highly significant ($p = 0.003$).

The Regression Analysis indicates a **strong negative relationship** between GNPA additions and Net Profit, showing that an increase in Non-Performing Assets leads to a decline in profitability. The model demonstrates high predictive accuracy, meaning GNPA additions significantly impact Net Profit. The strong correlation and statistical significance confirm that this relationship is not due to chance. The results highlight the critical influence of asset quality on financial performance, emphasizing the need for effective risk management strategies to minimize the impact of rising GNPA on profitability.

5. CAMEL FRAMEWORK:

Under the CAMEL framework, the selected banks for evaluation include State Bank of India (SBI), Union Bank of India (UNB), Punjab National Bank (PNB), and Bank of Baroda (BOB).

5.1. C – CAPITAL ADEQUACY ASSESSMENT OF SELECTED BANKS

Table showing Capital Adequacy Ratio over five-year period

Capital Adequacy Ratio (CAR) Over Five-Year Period				
FY	**SBI**	**UNB**	**PNB**	**BOB**
2019-20	13.06	12.81	14.14	13.30
2020-21	13.74	12.56	14.32	14.99
2021-22	13.83	14.52	14.50	15.68
2022-23	14.68	16.04	15.50	16.24
2023-24	14.28	16.97	15.97	16.31
AVERAGE	**13.92**	**14.58**	**14.89**	**15.30**
RANK	**4**	**3**	**2**	**1**

Table showing Debt-to-Equity Ratio over five-year period

Debt-To-Equity Ratio (DER) Over Five-Year Period				
FY	**SBI**	**UNB**	**PNB**	**BOB**
2019-20	17.03	16.30	13.32	16.11
2020-21	17.86	16.62	13.86	15.00
2021-22	17.81	16.83	13.77	14.88
2022-23	16.84	16.35	14.64	14.85
2023-24	16.38	14.35	14.67	14.13
AVERAGE	**17.18**	**16.09**	**14.05**	**14.99**
RANK	**4**	**3**	**1**	**2**

Table showing Advances-to-Assets Ratio over five-year period

Advances to Total Assets Over Five-Year Period				
FY	**SBI**	**UNB**	**PNB**	**BOB**
2019-20	58.85	57.21	56.80	59.60
2020-21	54.02	55.14	53.48	61.13
2021-22	54.82	55.66	55.38	60.81
2022-23	57.99	59.48	56.84	64.52
2023-24	59.94	62.56	59.83	67.21
AVERAGE	**57.12**	**58.01**	**56.47**	**62.25**
RANK	**3**	**2**	**4**	**1**

INTERPRETATION:

In CAMEL Framework, the 'C' component indicates Capital Adequacy. It is assessed using three key ratios:

Capital Adequacy Ratio (CAR) – A higher CAR is preferred as it indicates a bank's strong capital buffer to absorb potential losses. Among the four banks, Bank of Baroda (BOB) has the highest average CAR of 15.30%, ranking **1st**, showing strong capital adequacy. On the other hand, SBI has the lowest CAR of 13.92%, ranking **4th**, indicating a relatively lower capital buffer.

Debt-to-Equity Ratio (DER) – A lower DER is preferred as it signifies financial stability with lower reliance on debt financing. PNB has the lowest DER of 14.05%, ranking **1st**, indicating a more balanced capital structure. SBI, with the highest DER of 17.18%, ranks **4th**, suggesting greater dependence on borrowed funds.

Advances to Total Assets (Adv/TA) – A higher Advances/TA ratio is preferred as it reflects efficient asset utilization for lending. BOB has the highest Advances/TA ratio of 62.25%, ranking **1st**, indicating strong lending operations. SBI ranks **3rd** with 57.12%, showing a moderate level of advances compared to its total assets.

Overall, SBI has an average of 3.67 across three parameters, which signifies a **Moderate Performance** in Capital Adequacy.

5.2. A – ASSET QUALITY ASSESSMENT OF SELECTED BANKS

Table showing NNPA-to-Advances Ratio over five-year period

NNPA-to-Advances Over Five-Year Period				
FY	**SBI**	**UNB**	**PNB**	**BOB**
2019-20	2.23	9.94	5.77	3.13
2020-21	1.50	4.62	5.72	3.09
2021-22	1.02	3.68	4.79	1.72
2022-23	0.67	1.70	2.72	0.89
2023-24	0.57	1.03	0.73	0.68
AVERAGE	**1.20**	**4.19**	**3.95**	**1.90**
RANK	**1**	**4**	**3**	**2**

Table showing GNPA-to-Advances Ratio over five-year period

GNPA-to-Advances Over Five-Year Period				
FY	**SBI**	**UNB**	**PNB**	**BOB**
2019-20	6.41	30.85	15.57	10.05
2020-21	5.16	15.19	15.49	9.44
2021-22	4.10	12.04	12.70	6.96
2022-23	2.84	8.01	9.31	3.91
2023-24	2.28	4.95	6.03	2.99
AVERAGE	**4.16**	**14.21**	**11.82**	**6.67**
RANK	**1**	**4**	**3**	**2**

Table showing Provision Coverage Ratio over five-year period

Provision Coverage Ratio (PCR) Over Five-Year Period				
FY	**SBI**	**UNB**	**PNB**	**BOB**
2019-20	65.21	67.11	62.39	68.90
2020-21	70.88	68.88	62.37	67.30
2021-22	74.86	68.68	61.50	75.28
2022-23	76.18	78.10	69.60	76.73
2023-24	74.79	78.40	86.46	76.18
AVERAGE	**72.38**	**72.23**	**68.46**	**72.88**
RANK	**2**	**3**	**4**	**1**

INTERPRETATION:

In CAMEL Framework, the 'A' component indicates Asset Quality, assessed using three key ratios:

Net Non-Performing Assets (NNPA) to Advances Ratio – A lower ratio is preferred as it indicates better asset quality and lower credit risk. Among the four banks, SBI has the lowest average NNPA at 1.20%, ranking **1st**, demonstrating strong asset quality. On the other hand, UNB has the highest NNPA at 4.19%, ranking **4th**, indicating a higher proportion of bad loans.

Gross Non-Performing Assets (GNPA) to Advances Ratio – A lower ratio signifies better loan portfolio quality and fewer defaults. SBI maintains the lowest GNPA at 4.16%, ranking **1st**, showcasing effective NPA resolution. UNB has highest GNPA at 14.21%, ranking **4th**, which reflects a significantly higher level of stressed assets, indicating weak asset quality.

Provision Coverage Ratio (PCR) – A higher ratio is preferred, as it shows a bank's ability to cover potential losses from NPAs. BOB has the highest PCR at 72.88%, ranking **1st**, indicating its strong provisioning policy to absorb financial risks. SBI follows closely with a PCR of 72.38%, ranking **2nd**, indicating a well-balanced approach to provisioning for bad loans.

Overall, SBI has an average of 1.33 across three parameters, which signifies **Best Performance** in Asset Quality.

5.3. M – MANAGEMENT EFFICIENCY ASSESSMENT OF SELECTED BANKS

Table showing Profit Per Employee over five-year period

Profit Per Employee (PPE) Over Five-Year Period				
FY	**SBI**	**UNB**	**PNB**	**BOB**
2019-20	5.81	7.76	0.49	0.65
2020-21	8.31	3.71	2.10	1.00
2021-22	12.97	6.96	3.54	9.11
2022-23	21.30	11.16	2.57	18.06
2023-24	26.29	17.99	8.61	23.56
AVERAGE	**14.94**	**9.52**	**3.46**	**10.48**
RANK	**1**	**3**	**4**	**2**

Table showing Business Per Employee over five-year period

Business Per Employee (BUPE) Over Five-Year Period				
FY	**SBI**	**UNB**	**PNB**	**BOB**
2019-20	22.32	20.52	17.09	19.41
2020-21	24.96	19.37	18.50	20.19
2021-22	27.78	22.52	19.19	22.84
2022-23	32.32	24.86	21.65	27.45
2023-24	37.11	27.58	24.05	31.69
AVERAGE	**28.90**	**22.97**	**20.10**	**24.32**
RANK	**1**	**3**	**4**	**2**

Table showing Return on Equity over five-year period

Return on Equity (ROE) Over Five-Year Period				
FY	**SBI**	**UNB**	**PNB**	**BOB**
2019-20	6.24	8.57	0.54	0.76
2020-21	8.04	4.51	2.22	1.07
2021-22	11.31	7.41	3.62	8.46
2022-23	15.33	10.77	2.51	14.37
2023-24	16.19	14.07	7.74	15.85
AVERAGE	**11.42**	**9.07**	**3.33**	**8.10**
RANK	**1**	**2**	**4**	**3**

INTERPRETATION:

In CAMEL Framework, the 'M' component indicates Management Efficiency, assessed using three key ratios:

Profit Per Employee (PPE) – A higher ratio is preferred, as it reflects greater productivity and efficiency in generating profits per employee. SBI has the highest PPE at 14.94, ranking **1st**, indicating higher profitability from its workforce. PNB has the lowest PPE at 3.46, ranking **4th**, suggesting lower profitability per employee, which could be due to operational inefficiencies.

Business Per Employee (BUPE) – A higher value indicates better employee efficiency in managing business volumes. SBI with an average BUPE of 28.90, ranking **1st**, showcasing strong operational efficiency and effective workforce utilization. PNB records the lowest BUPE at 20.10, ranking **4th**, reflecting lower business generation per employee.

Return on Equity (ROE) – A higher percentage is preferred, as it demonstrates the bank's ability to generate profits from shareholders' equity. SBI has the highest ROE at 11.42, ranking **1st**, indicating superior profitability. PNB, with the lowest ROE at 3.33, ranks **4th**, suggesting weaker returns for its shareholders.

Overall, SBI has an average of 1 across three parameters, which signifies **Best Performance** in Management Efficiency.

5.4. E – EARNINGS ASSESSMENT OF SELECTED BANKS

Table showing Return on Assets over five-year period

Return on Assets (ROA) Over Five-Year Period				
FY	**SBI**	**UNB**	**PNB**	**BOB**
2019-20	0.38	0.55	0.04	0.06
2020-21	0.48	0.36	0.19	0.07
2021-22	0.67	0.46	0.27	0.60
2022-23	0.96	0.68	0.18	1.03
2023-24	1.04	1.02	0.55	1.17
AVERAGE	**0.71**	**0.62**	**0.25**	**0.59**
RANK	**1**	**2**	**4**	**3**

Table showing Net Profit Margin over five-year period

Net Profit Margin (NP) Over Five-Year Period				
FY	**SBI**	**UNB**	**PNB**	**BOB**
2019-20	4.79	6.82	0.53	0.63
2020-21	6.61	3.61	2.16	0.99
2021-22	10.02	6.50	3.96	8.94
2022-23	13.62	8.84	2.58	14.16
2023-24	13.08	11.78	6.85	14.00
AVERAGE	**9.63**	**7.51**	**3.22**	**7.74**
RANK	**1**	**3**	**4**	**2**

Table showing Net Interest Income-to-Income over five-year period

Net Interest Income-to-Total Income (NII/TI) Over Five-Year Period				
FY	**SBI**	**UNB**	**PNB**	**BOB**
2019-20	32.42	26.92	27.65	31.81
2020-21	35.87	30.66	32.57	34.53
2021-22	38.20	34.53	32.91	40.09
2022-23	39.28	34.35	35.45	41.52
2023-24	34.25	31.56	33.32	35.19
AVERAGE	**36.00**	**31.61**	**32.38**	**36.63**
RANK	**2**	**4**	**3**	**1**

INTERPRETATION:

In CAMEL Framework, the 'E' component indicates Earnings, assessed using three key ratios:

Return on Assets (ROA) – A higher percentage is preferred, as it indicates the bank's efficiency in generating profits relative to its total assets. SBI leads with an average ROA of 0.71, ranking **1st**, reflecting strong asset utilization and profitability. PNB has the lowest ROA at 0.25, ranking **4th**, suggesting weaker returns from its asset base.

Net Profit Margin (NPM) – A higher ratio is desirable, as it measures the bank's ability to convert revenue into actual profit. SBI secures the top position with an average NPM of 9.63, ranking **1st**, highlighting its superior cost management and profitability. PNB has the lowest NPM at 3.22, ranking **4th**, indicating lower profitability despite its revenue generation.

Net Interest Income-to-Total Income (NII/TI) – A higher percentage is preferred, as it suggests greater reliance on core banking operations for income generation. BOB leads with the highest average of 36.63, ranking **1st**, demonstrating a strong dependence on interest income rather than non-interest income sources. SBI ranks **2nd** with 36.00, showing a competitive balance in income composition.

Overall, SBI has an average of 1.33 across three parameters, which signifies **Best Performance** in Earnings.

5.5. L – LIQUIDITY ASSESSMENT OF SELECTED BANKS

Table showing Liquid Asset-to-Total Asset Ratio over Five-Year Period

Liquid Asset-to-Total Asset Ratio (LA/TA) Over Five-Year Period				
FY	**SBI**	**UNB**	**PNB**	**BOB**
2019-20	0.33	0.38	0.38	0.34
2020-21	0.37	0.39	0.40	0.33
2021-22	0.38	0.39	0.38	0.34
2022-23	0.34	0.35	0.38	0.31
2023-24	0.32	0.33	0.35	0.29
AVERAGE	**0.35**	**0.37**	**0.38**	**0.32**
RANK	**3**	**2**	**1**	**4**

Table showing Current Ratio over five-year period

Current Ratio (CR) Over Five-Year Period				
FY	**SBI**	**UNB**	**PNB**	**BOB**
2019-20	1.05	1.06	1.07	1.06
2020-21	1.05	1.06	1.07	1.06
2021-22	1.05	1.06	1.07	1.06
2022-23	1.05	1.06	1.06	1.07
2023-24	1.06	1.07	1.06	1.07
AVERAGE	**1.05**	**1.06**	**1.07**	**1.06**
RANK	**4**	**3**	**1**	**2**

Table showing Liquid Assets-to-Total Deposits over five-year period

Liquid Assets-to-Total Deposits (LA/TD) Over Five-Year Period				
FY	**SBI**	**UNB**	**PNB**	**BOB**
2019-20	40.04	46.05	44.96	41.92
2020-21	46.04	45.02	45.59	39.47
2021-22	46.30	45.33	44.04	41.92
2022-23	42.46	40.39	43.02	38.07
2023-24	40.32	37.43	40.11	35.04
AVERAGE	**43.03**	**42.84**	**43.54**	**39.28**
RANK	**2**	**3**	**1**	**4**

INTERPRETATION:

In CAMEL Framework, the 'L' component indicates Liquidity, assessed using three key ratios:

Liquid Asset-to-Total Asset Ratio (LA/TA) – A higher LA/TA ratio indicates greater liquidity. SBI holds an average LA/TA ratio of 0.35, ranking **3rd** among the four banks. PNB leads the with an average 0.38, ranking **1st**. SBI's ranking suggests a balanced liquidity position, ensuring sufficient liquid assets while optimizing asset utilization.

Current Ratio (CR) - The current ratio measures a bank's ability to cover short-term liabilities with short-term assets. A higher ratio is preferred, SBI reports an average current ratio of 1.05, placing it at the lowest rank **4th**. PNB secures the top position with 1.07, ranking **1st**. SBI's lower rank suggests it may have relatively tighter short-term liquidity compared to its peers.

Liquid Assets-to-Total Deposits (LA/TD) - A higher LA/TD ratio indicates that a bank holds more liquid assets relative to deposits, ensuring better liquidity management. SBI has an average LA/TD ratio of 43.03, ranking **2nd**, while PNB takes the lead with 43.54, ranking **1st**. SBI suggests that it maintains a strong liquid asset base while efficiently deploying deposits, reinforcing its stable liquidity position.

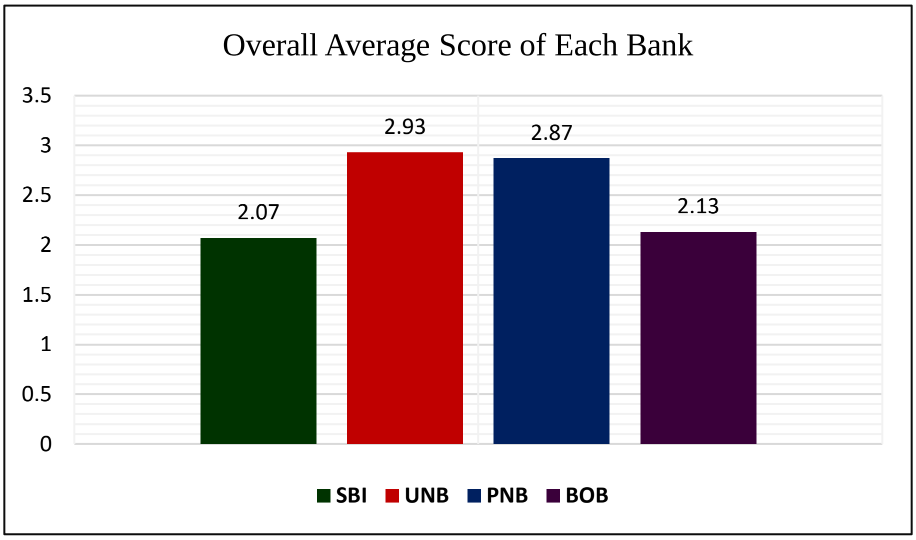
Overall, SBI has an average of 3 across three parameters, which signifies **Moderate Performance** in Liquidity.

5.6. OVERALL "CAMEL" RATING OF SELECTED BANKS

Table showing Overall CAMEL Rating of Selected Banks

FIN. METRICS		SBI	UNB	PNB	BOB
C	**CAR**	4	3	2	1
	DER	4	3	1	2
	ADVANCES/TA	3	2	4	1
A	**NNPA/Advances**	1	4	3	2
	GNPA/Advances	1	4	3	2
	PCR	2	3	4	1
M	**PPE**	1	3	4	2
	BPE	1	3	4	2
	ROE	1	2	4	3
E	**ROA**	1	2	4	3
	NP	1	3	4	2
	NII/TI	2	4	3	1
L	**LA/TA**	3	2	1	4
	CR	4	3	1	2
	LA/TD	2	3	1	4
AVERAGE		2.07	2.93	2.87	2.13
RANK		**1**	**4**	**3**	**2**

Chart 7.5.6. showing Overall Average Score of Each Bank



INTERPRETATION:

In the CAMEL rating framework, a lower score indicates better financial performance, stability, and efficiency. The overall CAMEL rating analysis of the selected banks indicates that **SBI** holds the highest rank (**1st place**) with an average score of 2.07 among its peers, demonstrating its strong financial position. The BOB follows in 2nd place with an average score of 2.13, while PNB and UNB rank lower with scores of 2.87 and 2.93, respectively. The bar graph visually reinforces this ranking, depicting SBI's financial strength.

OVERALL KEY HIGHLIGHTS OF CAMEL FRAMEWORK:

- SBI's performance is its superior ratings in the Asset Quality (A), Management Efficiency (M) and Earnings (E) components.
- SBI has secured the best ratings in critical asset-related ratios, such as NNPA/Advances and GNPA/Advances, reflecting its effective risk management and low non-performing asset levels.
- The bank has excelled in management efficiency-based metrics and earnings-based metrics, especially PPE, BUPE, ROE, ROA, and NP. This demonstrates SBI’s ability to generate sustainable profitability while maintaining robust asset quality.
- The strong performance of SBI in both asset quality and profitability indicates that the bank has **successfully balanced risk management with profitability**. By maintaining high-quality assets while achieving strong earnings growth, SBI showcases financial stability and efficiency, positioning itself as the most resilient among its peers.