
COMPARATIVE ANALYSIS OF BUSINESS MODELS FOR FORECASTING AND VALUATION IN THE INDIAN BANKING INDUSTRY

Nachiket Naik

Student, Bachelor of Engineering (Electronics and Communication), BITS Pilani (Goa Campus)
nachiketnaik2004@gmail.com

ABSTRACT

The banking industry has developed economies and shaped the economic growth. The banking industry in India focuses on the financial growth, regulations, and aspects specific to the Indian banks' lending process. The bank prefers certain kind of loan, high yield or low yield, based on the risk profile of the borrower.

The original CAMELS framework to evaluate the financial health of the bank is established in the 1970 by the Federal Reserve. A few shortcomings like the Silicon Valley Bank failure and its CAMELS rating elaborates some of the flaws. The CAMELS framework as used in the context of Indian Banks, now it has been used by financial regulators in India as well. The current study builds a process on the CAMELS framework and introduces the modified CAMELS framework (MCAMELS). Yearly MCAMELS score is compared to find out the overall trend. Further for three specific years of 2025, 2023 and 2020, the ratings are compared with their previous rating to find out about any significant changes.

HDFC bank as a private sector bank, SBI as a public sector bank and Ujjivan as a small finance bank are compared to see how various factors across these banks change over the years and how these banks are fundamentally different.

Keywords: Indian Banking Sector, CAMELS framework, MCAMELS framework, Return on Assets, Return on Equity

1. INTRODUCTION

The banking system is the main support structure of every modern economy and plays an essential role in ensuring the continuous circulation of money, promoting liquidity, and maintaining financial stability in the economy. Banks perform several functions, from disbursement of credit to safeguarding deposits. They also have pivotal role in maintaining liquidity and implementing the vision of the central bank. From 1960, all the banks of the then princely states of India were made subsidiaries of state bank of India [1]. Over time, the Indian banking system expanded and diversified to meet the growing developmental needs of the nation. The nationalization of major banks in 1969 and again in 1980 was a watershed moment that aligned the sector more closely with the objectives of planned economic development [2]. The Indian financial ecosystem is composed of a diverse range of institutions, each serving different segments of the economy. Microfinance Institutions (MFIs) and Small Finance Banks focus on underserved populations, particularly in rural and low-income segments. They provide small loans, savings options, and basic financial services, empowering marginalized groups and supporting micro-entrepreneurship where conventional banks have limited reach. Non-Banking Financial Companies (NBFCs) are critical in extending credit to sectors often underserved by banks, including SMEs (Small and Medium Enterprises), real estate, and consumer finance. As India continues its trajectory as a fast-growing economy, the banking sector will remain a critical enabler of sustainable growth. Strengthening financial stability, enhancing technological capabilities, and ensuring broader access to credit will be essential for the sector to meet the demands of a modern, globally integrated economy. A robust, inclusive, and adaptive banking system is therefore indispensable for achieving India's long-term developmental goals.

The current study focuses on to understand banking sector in India, to elaborate Preference and types of lending of banks, to study CAMELS framework used for bank ratings and to suggest the modified CAMELS framework (MCAMELS) for scoring and valuation of Indian banks.

2. LITERATURE REVIEW

Despite gold loan being secured loans, they attract high interest rates, around 12% annually. While the collateral reduces credit risk, operational and borrower-specific risks remain hence the higher interest rate on these loans [3][6]. The informal sources charge a huge rate of interest of about 30%, hence MSMEs tend to turn to banks and NBFCs which charge rates between 15-25% [4][7]. A few MSME focused NBFCs are Five star and SBFC with annualized yield on their average AUM at 24.2% and 15% for H1 FY25 [5]. High yields compensate for the elevated operational costs, default risks, and intensive monitoring required in this segment [8]. The low-yield loans segments are considered lower risk due to strong collateral, higher borrower creditworthiness, or large-scale lending relationships. While they yield lower margins, they contribute significantly to balance sheet

stability and better asset quality [9]. The CAMELS framework is an acronym for all these various factors as C: Capital adequacy, A: Asset Quality, M: Management, E: Earnings, L: Liquidity, and S: Sensitivity to market risk [10] [11]. In this paper [12], authors have taken CRAR ratio, also known as CAR ratio, is a commonly reported metric. It is used for the factor of Capital adequacy based on Business per employee to find the management efficiency. In the paper [13], the author has used four banks to give CAMELS rating to banks, out of which two are private (HDFC and KMB) and two are public (SBI and PNB). Small finance banks were given a CAMELS rating. The paper has compared small finance banks on various factors within a single broad factor [14]. The present study is based on the similar framework.

3. RESEARCH METHODOLOGY

3.1 CAMELS framework

The CAMELS framework evaluates six key components: Capital adequacy, Asset quality, Management efficiency, Earnings, Liquidity, and Sensitivity to market risk. Among its advantages, CAMELS support consistent monitoring and benchmarking, guiding corrective interventions to maintain financial stability. The model encourages transparency and accountability in banks, fostering investor and depositor confidence [16]. It has no inherent problems regarding predictive ability, in the US banks context of the crisis of 2008 [17]. The downgrade of the composite CAMELS rating is not significantly associated with their measures of interest rate risk exposure taken by the bank throughout the entire sample period [18]. While CAMELS remain foundational for banking supervision by offering a broad, multi-dimensional approach and regulatory standardization, it requires continuous enhancement to capture evolving financial risks and integrate more forward-looking analytics.

3.2 Modified CAMELS framework (MCAMELS)

In the modified CAMELS framework (MCAMELS), the same factors are there as mentioned in the CAMELS framework, with the only modified part is the riskiness constant.

- C: Capital adequacy, represented by CAR (capital adequacy ratio)
- A: Asset quality, represented by slippage%
- M: Management, represented by Business/employee
- E: Earnings is divided into two parts. Absolute level of earnings, measured by ROA, ROE and spread, and quality of earnings, measured by leverage and standard deviation of ROE.
- L: Liquidity, measured by the consolidated liquidity ratio.
- S: Sensitivity to market risk, measured by Market RWA as a % of total RWA.

Factor 1- Spread is simply the difference between the yield on advances and cost of funds, a rough measure of how much the bank keeps. The spread has **12%** weightage as it gives an idea of the actual margin of the bank and more importantly about its profitability. **Factor 2 - Business/Employee** refers to the sum of quarterly average of net advances and deposits (net of inter-bank deposits). The weightage of this factor is **8%** as this factor is used to measure the management efficiency. **Factor 3-ROE** stands for return on equity. It is the ratio of net profit over Networth. The weightage of ROE is **6%**. The factor is used to find out the absolute level of earnings. **Factor 4 - Slippage %** is the incremental number of loans that are turning into NPAs.

The weightage of slippage parentage is **14%**. **Factor 5 - Leverage** is total assets divided by Networth. A simple way to calculate leverage is to take the ratio of ROE and ROA. The leverage factor has **6%** weightage as it is used to find the quality of earnings. **Factor 6 – ROA** stands for return on assets. It is net profit of that year divided by average assets, as a percentage. ROA has **6%** weightage. **Factor 7 - Standard deviation of ROE** stands for return on equity. It is simply the net profit divided by the shareholders equity (equity and surplus). The weightage of this factor is **12%**. **Factor 8 - Market RWA%** is used to capture the factor of S in MCAMELS, this study is using capital for market risk divided by total capital (sum of credit risk, market risk, and operation risk). The weightage of this factor is **6%**. Sensitivity to market risk is measured by this value. Market RWA is market risk weighted assets. **Factor 9 – CAR** stands for Capital Adequacy Ratio. The risk weight for BBB rated corporate loans is 75% and cash is 0%, since there is high risk for BBB rated corporate loans and no risk for cash [19]. The weightage of this factor is **6%**. CAR is the capital adequacy ratio; it is a measure of the capital adequacy of the bank. **Factor 10 – LCR** is presented to capture the liquidity in CAMELS framework. The weightage of this factor is **6%**. LCR is the liquidity coverage ratio. **Factor 11 - Riskiness constant** is a subjective factor used in the MCAMELS framework. The reason for the higher weightage, **18%**,

to this factor is to make the MCAMELS framework more forward looking and not just based on quantitative data and historical data.

In the modified score, higher weightage has been given to Spread, Slippage %, Standard deviation of ROE and Riskiness constant, a subjective factor. The reason for this to capture absolute profitability, stability of the bank and forward-looking statement. The MCAMELS score should be between 1 and 10. The lower the MCAMELS score the better the bank. The MCAMELS framework is not a final valuation metric for judging a bank, it is a tool to help us compare banks of different sizes based on a lot of factors like profitability, stability and types of loans given.

4. RESULTS AND DISCUSSION

4.1 Yearly MCAMELS score and ratings

After giving the scores to all the banks for a particular year, the scores are sorted in the increasing order to get a ranking as shown in figure 1.

	2017	2018	2019	2020	2021	2022	2023	2024	2025
HDFC	1	1	1	1	1	1	1	3	1
ICICI	4	4	4	5	2	2	2	1	2
AXIS	5	6	6	7	5	4	4	5	6
IDFC	3	5	8	8	9	8	10	10	10
SBI	6	7	7	6	6	6	5	4	4
CANARA	7	8	9	9	10	7	9	8	5
JANA					7	9	8	7	8
CUBK	2	2	2	4	3	5	6	6	3
AU		3	5	3	4	3	7	9	9
UJJIVAN			3	2	8	10	3	2	7

Figure 1: The ratings of all banks over the years

A few broad trends are: HDFC has been stable in its ranking over the years. The large private banks like ICICI and Axis initially had poor rating on account of the infrastructure loans, which improved gradually. SBI has improved over the years on account of improving asset quality. The study considers three different years 2025, 2023 and 2020 along with their preceding years to see the trend. There is sudden improvement in the rating of Canara bank, in this period on account of improving treasury gains and lowering credit costs as shown in figure 1. Even City Union Bank (CUBK) got its rating improved on account of growth in its main business, MSME lending and improving asset quality compared to last year.

HDFC	2017	2018	2019	2020	2021	2022	2023	2024	2025
Yield on advances	10.21%	10.32%	10.49%	10.12%	8.92%	7.87%	8.55%	10.14%	9.34%
Cost of funds	5.15%	5.15%	5.15%	5.15%	5.15%	4.56%	4.80%	5.87%	6.21%
Spread	5.06%	5.17%	5.34%	4.97%	3.77%	3.31%	3.75%	4.27%	3.13%
Business/employee (in Cr)	14.21	16.40	17.95	18.31	20.55	20.68	20.11	22.78	24.87
Slippage %	1.53%	2.34%	2.18%	2.14%	1.61%	2.37%	1.79%	2.52%	1.29%
Leverage	9.60	9.44	9.59	8.36	8.43	8.33	8.29	8.05	7.64
ROE	18.04%	18.22%	18.22%	16.80%	16.60%	16.90%	17.40%	16.10%	14.60%
ROA	1.88%	1.93%	1.90%	2.01%	1.97%	2.03%	2.10%	2.00%	1.91%
Std dev. Of ROE	0.40%	0.39%	0.38%	0.30%	0.30%	0.31%	0.31%	0.30%	0.33%
Market RWA%	6.15%	6.42%	4.75%	3.62%	6.76%	5.19%	4.45%	4.52%	0.92%
CAR	12.79	13.25	15.78	17.23	17.56	17.87	17.13	16.79	17.69
LCR	100%	105%	118%	132%	138%	112%	116%	115%	119%
Riskiness constant	1.00	1.00	1.00	1.00	2.00	2.00	2.00	4.00	2.00

Figure 2: HDFC bank's various factors over the years

The rating downgrade has occurred for Ujjivan small finance bank, on account of the broader stress in the MFI segment. This is due to Ujjivan's MFI heavy portfolio and the nature of MFI loans, which are unsecured and little is recoverable if the person defaults. One of the worsening areas as observed must be IDFC first bank, its rating declined from 8 to 10 as shown in figure 1. This was no structural change but rather this is due the relative valuation of the companies. This means that if the competitors have better asset quality or other metrics in a particular year, a particular bank get a slightly lower rating, even without having major flaws. City union bank (CUBK) during this time fell short on the growth aspect and their asset quality deteriorated, hence its rating has declined. During the same time, AU small finance bank (AU), witnessed its best in history growth, supported by an improving asset quality as shown in figure 1. The decline in yield on advances from 2021 to 2023, is due to the repo rate cut happening during the time. [21]. It is shown in figure 2. HDFC (the NBFC) and HDFC bank merger came into effect on 1st July 2023 [22]. Following that, in FY25, the yield on advances has declined and cost of funds have increased compared to FY24. This is due to the bank taking over the housing

loans portfolio from HDFC (the NBFC), it impacted the overall portfolio, since housing loans are typically of lower yields. Further the reason for the increase in cost of funds is due to the borrowings of HDFC (the NBFC) which were in the form of external borrowings like NCDs or bank loans, were at a higher rate, hence their cost of funds also increased. The std deviation of ROE has been low and at around 0.3% over the period of 9 years, indicating the stability of the bank. Further the riskiness constant has increased over the years on account of the bank failing to maintain its ROE levels and losing the valuation game to ICICI bank. Despite the negatives, the factors point to the bank being a good stable private bank, with little deviation in profitability over the years and stability in its earnings. Further the bank has also maintained a decent slippage ratio over the years, and a good retail loans focused portfolio indicating its prudent underwriting despite its big size. The study then looks at SBI, spreads have increased slightly over the years, while the bank has grown more efficient over the years, as business/employee has more than doubled from 2017 to 2025 as shown in figure 3. Further the asset quality has been improving as seen by the declining slippage ratio. Due to increasing profitability, efficient running of the bank, and lower slippage ratios, the riskiness of the bank has declined significantly, making it a good bank.

Looking at Ujjivan just based on spreads, makes it seem like an exceptionally good bank, but there are other ratios that must be looked at like slippage ROA, ROE ratios. It is shown in figure 4.

SBI	2017	2018	2019	2020	2021	2022	2023	2024	2025
Yield on advances	7.88%	8.06%	7.84%	7.97%	7.18%	7.62%	7.76%	8.97%	8.98%
Cost of funds	6.84%	6.30%	6.10%	5.94%	5.20%	4.83%	4.99%	5.81%	6.11%
Spread	1.04%	1.76%	1.74%	2.03%	1.98%	2.79%	2.77%	3.16%	2.87%
Business/employee (in Cr)	17.25	17.58	19.30	22.32	24.96	27.78	32.32	37.11	40.41
Slippage %	2.67%	10.20%	1.69%	2.28%	1.23%	1.02%	0.67%	0.64%	0.56%
Leverage	17.68	19.89	24.00	20.37	20.71	20.75	20.24	19.54	18.06
ROE	7.25%	-1.78%	0.48%	7.24%	9.94%	13.90%	19.43%	20.32%	19.87%
ROA	0.41%	-0.19%	0.02%	0.38%	0.48%	0.67%	0.96%	1.04%	1.10%
Std dev. Of ROE	0.95%	1.53%	1.64%	1.50%	1.49%	1.71%	1.58%	1.29%	1.14%
Market RWA%	8.31%	11.36%	9.18%	8.31%	10.27%	8.79%	7.29%	8.62%	9.35%
CAR	10.35	10.36	10.65	11.00	11.44	11.42	12.06	11.93	12.11
LCR	147%	134%	126%	144%	159%	138%	148%	131%	133%
Riskiness constant	6.00	7.00	7.00	7.00	4.00	4.00	4.00	2.00	1.00

Figure 3: SBI's various factors over the years.

Ujjivan	2017	2018	2019	2020	2021	2022	2023	2024	2025
Yield on advances	0.00%	0.00%	20.75%	20.10%	18.50%	16.60%	18.40%	19.20%	18.60%
Cost of funds	0.00%	0.00%	8.50%	8.20%	7.20%	6.30%	6.50%	7.40%	7.50%
Spread	0.00%	0.00%	12.25%	11.90%	11.30%	10.30%	11.90%	11.80%	11.10%
Business/employee (in Cr)	0.00	0.00	1.22	1.39	1.67	2.05	2.62	2.59	2.83
Slippage %	0.00%	0.00%	1.14%	1.38%	7.35%	14.41%	2.05%	2.25%	4.20%
Leverage	0.00	0.00	6.76	6.32	7.50	6.76	8.05	7.46	7.75
ROE	0.00%	0.00%	11.50%	13.90%	0.30%	-13.80%	31.40%	26.10%	12.40%
ROA	0.00%	0.00%	1.70%	2.20%	0.04%	-2.04%	3.90%	3.50%	1.60%
Std dev. Of ROE	0.00%	0.00%	0.11%	0.67%	2.66%	4.44%	5.12%	5.44%	5.44%
Market RWA%	0.00%	0.00%	10.00%	0.12%	0.19%	0.28%	0.71%	0.68%	2.16%
CAR	0.00	0.00	18.39	28.00	25.06	17.70	22.68	22.58	21.38
LCR	0%	0%	187%	254%	116%	126%	180%	137%	128%
Riskiness constant	0.00	0.00	8.00	9.00	8.00	8.00	8.00	7.00	10.00

Figure 4: Ujjivan's factors over the years

4.2 Observations

Looking at the LCR ratios, one can see that for a particular small finance bank like Jana, this ratio is quite high. The quantitative information on Liquidity Coverage Ratio (LCR) is shown in figure 5. The reason for the difference is the structure of the deposits. There are callable and non-callable deposits. Callable deposits can be broken before the end of their maturity, while non-callable deposits cannot be broken during their locking period. In Jana's March 2025 presentation, it is mentioned that non-callable deposits form 65% of bulk deposits. Hence the value of these bulk deposits is not considered in the LCR calculation and hence the LCR appears high. [25].

Small finance banks are different in a lot of terms compared to large and mid-size banks. They have higher yield on advances, cost of funds and even ROA, but due to their asset quality problems, it affects their ROE [7][29]. The paper [14] compared a few of the small finance banks. They found out that AU small finance bank had the third rank while Ujjivan had the ninth rank, which is partly in accordance with the analysis of our study. The paper [26], discussing about the accuracy of the buy side analysts in Indian markets. The approximate accuracy of all their predictions was at 63%, over a 12-month forecasting horizon. Further the analysts also preferred multiple based valuation to determine their target prices. In the same paper, the approach to find target prices using Book multiples had an achievement of 64%, while that of DCF was 53%. In the paper, considering the total number of reports analyzed by the researchers, 14.8% of all the reports analyzed by the team were reports on financial services. Further in the same paper, the target price was met during the time (12 months) had an achievement of 62% in the financial services sector [27] [28].

Particulars	June 30, 2023		September 30, 2023		December 31, 2023		March 31, 2024	
	Total unweighted value (average)*	Total weighted value (average)	Total unweighted value (average)*	Total weighted value (average)	Total unweighted value (average)*	Total weighted value (average)	Total unweighted value (average)*	Total weighted value (average)
1. Total High Quality Liquid Assets (HQLA)	4,636.57	4,636.57	4,710.44	4,710.44	4,329.04	4,329.04	5,515.87	5,515.87
Cash Outflows								
2. Retail deposits and deposits from small business customers, of which:	9,660.68	654.70	10,131.44	914.51	10,477.54	1,035.16	10,746.06	1,061.12
(i) Stable deposits	6,227.27	311.36	1,972.60	98.63	251.90	12.60	269.64	13.48
(ii) Less stable deposits	3,433.41	343.34	8,158.84	815.88	10,225.64	1,022.56	10,476.42	1,047.64
3. Unsecured wholesale funding, of which:	1,214.33	116.06	1,126.49	220.93	1,277.70	594.79	1,483.45	757.07
(i) Operational deposits (all counterparties)	-	-	-	-	-	-	-	-
(ii) Non-operational deposits (all counterparties)	1,214.33	116.06	1,126.49	220.93	1,277.70	594.79	1,483.45	757.07
(iii) Unsecured debt	-	-	-	-	-	-	-	-
4. Secured wholesale funding	242.73	242.73	108.89	108.89	27.27	27.27	-	-
5. Additional requirements, of which	117.97	5.90	133.02	6.65	139.39	6.97	156.60	9.43
(i) Outflows related to derivative exposures and other collateral requirements	-	-	-	-	-	-	-	-
(ii) Outflows related to loss of funding on debt products	-	-	-	-	-	-	-	-
(iii) Credit and liquidity facilities	117.97	5.90	133.02	6.65	139.39	6.97	156.60	9.43
6. Other contractual funding obligation	178.13	178.13	206.23	206.23	73.34	73.34	139.27	139.27
7. Other contingent funding obligations	40.91	1.97	80.48	3.90	120.90	5.09	177.50	6.69
8. Total cash outflows	11,454.75	1,199.49	11,786.55	1,461.11	12,116.14	1,742.62	12,702.88	1,973.58
Cash Inflows								
9. Secured lending (e.g. reverse repo)	-	-	-	-	-	-	-	-
10. Inflows from fully performing exposures	1,012.13	506.07	1,161.73	613.39	1,165.64	591.41	1,117.12	563.01
11. Other cash inflows	0.75	0.75	0.41	0.41	2.39	2.39	1.04	1.04
12. Total cash inflows	1,012.88	506.82	1,162.14	613.80	1,168.03	593.80	1,118.16	564.05
13. Total HQLA	4,636.57	4,636.57	4,710.44	4,710.44	4,329.04	4,329.04	5,515.87	5,515.87
14. Total Net Cash Outflows	10,441.87	692.67	10,624.41	847.31	10,948.11	1,148.82	11,584.72	1,409.53
15. Liquidity Coverage Ratio (%)		669.38%		555.93%		376.82%		391.33%

Figure 5: LCR disclosure of Jana small finance bank for all quarters of FY24 [23]

₹ in million								
Particulars	Quarter ended March 31, 2024		Quarter ended December 31, 2023		Quarter ended September 30, 2023		Quarter ended June 30, 2023	
	Total Unweighted Value (average)*	Total Weighted Value (average)*	Total Unweighted Value (average)*	Total Weighted Value (average)*	Total Unweighted Value (average)*	Total Weighted Value (average)*	Total Unweighted Value (average)*	Total Weighted Value (average)*
High Quality Liquid Assets								
1 Total High Quality Liquid Assets (HQLA)		56,00,648.70		54,33,877.70		57,61,315.30		50,08,831.10
Cash Outflows								
2 Retail deposits and deposits from small business customers, of which:	1,38,92,039.50	11,87,036.70	1,34,88,211.40	11,47,820.60	1,29,81,706.30	11,05,765.10	1,16,61,412.50	9,80,751.50
(i) Stable deposits	40,43,344.20	2,02,167.20	40,20,010.10	2,01,000.50	38,48,111.80	1,92,405.80	37,07,795.80	1,85,389.80
(ii) Less stable deposits	98,48,695.30	9,84,869.50	94,68,201.30	9,46,820.10	91,33,594.70	9,13,359.50	79,53,616.70	7,95,361.70
3 Unsecured wholesale funding, of which:	56,12,716.30	35,55,913.50	56,25,792.00	36,01,248.50	54,17,283.70	34,78,479.80	46,48,234.30	28,35,406.00
(i) Operational deposits (all counterparties)	-	-	-	-	-	-	-	-
(ii) Non-operational deposits (all counterparties)	54,39,692.90	33,82,890.10	54,30,919.30	34,08,375.80	52,22,101.30	32,83,297.40	45,66,705.10	27,53,876.80
(iii) Unsecured debt	1,73,023.40	1,73,023.40	1,94,872.70	1,94,872.70	1,95,182.40	1,95,182.40	81,529.20	81,529.20
4 Secured wholesale funding		41,481.20		47,119.30		72,443.90		80,720.50
5 Additional requirements, of which	23,65,367.90	14,04,869.30	26,66,309.40	14,65,400.70	25,18,625.00	12,51,453.20	16,24,044.10	11,19,565.70
(i) Outflows related to derivative exposures and other collateral requirement	12,97,367.70	12,97,367.70	13,45,842.90	13,45,842.90	11,14,028.80	11,14,028.80	10,34,227.90	10,34,227.90
(ii) Outflows related to loss of funding on debt products	-	-	-	-	-	-	-	-
(iii) Credit and liquidity facilities	10,68,000.20	1,07,501.80	13,20,466.50	1,19,557.80	14,04,596.40	1,37,424.80	5,89,816.20	85,337.80
6 Other contractual funding obligation	3,93,045.00	3,93,045.00	4,12,121.80	4,12,121.80	4,95,184.40	4,95,184.40	3,65,653.40	3,65,653.40
7 Other contingent funding obligations	1,03,53,828.80	4,76,398.80	97,83,635.60	4,49,117.50	84,98,700.10	3,92,684.80	80,81,581.70	3,75,498.90
8 Total Cash Outflows		70,58,754.30		71,22,828.40		67,96,011.20		57,57,596.00

Figure 9: LCR disclosure of HDFC bank for all quarters of FY24 [24]

So, till now, the P/B multiple has been used. One can also use the MCAMELS framework along with the P/B multiple for making better investing decisions. Since the P/B multiple only looks at one factor, that is the book value, it is not holistic in its approach of valuation. Hence a better approach would be to combine the two and use it for valuation.

5. CONCLUSION

Since the MCAMELS score considers a subjective factor, along with the earlier advantages of the CAMELS framework, it is better at forecasting the future trajectory of the bank. This is quite against the grain that despite being offered a better rate on a loan, people are unwilling to switch. Several factors like customer service, reputation, different types of products have significant impact whether the customer will switch. This is one of the reasons why HDFC bank customers do not shift in vast numbers to Ujjivan and other small finance banks, despite higher deposit rates. One of the reasons PSU banks have an elevated GNPA ratio is due to the winding down of the bad loans due to earlier crisis that have occurred earlier. One of the important crises visible in the GNPA ratio trend is the 2018 infrastructure crisis. In the period preceding 2018, loans were given to infrastructure and power companies, and there was not enough demand causing a problem. Followed by regulatory changes during 2015, a few bad practices like “evergreening loans” came out and the NPA recognition practices changed, hence the loans had to reported as NPA.

The top private players in the credit cards space have been increasing their new cards issuance aggressively. There have also been concerns related to the increased debt burden among consumers, with access to easy credit, incentives in online spending, is leading people to accrue high interest debt. In the MCAMELS framework, for finding the Liquidity (L) factor rating, the study considers the consolidated LCR instead of the standalone LCR. One of the issues with this approach is that some of the established banks have subsidiaries like Axis bank has Axis securities and Axis capital. Due to various features and products offered by these subsidiaries, these subsidiaries also get a lot of business and hence their contribution is significant, but it isn't enough to change the entire LCR ratio by a large number, hence it could be used as a good substitute.

REFERENCES

1. Reserve Bank of India. (n.d.). *Brief history: Chronology of events, 1950 to 1960*. https://rbi.org.in/history/Brief_Chro1950to1960.html
2. Reserve Bank of India. (n.d.). *Brief history: Chronology of events, 1968 to 1985*. https://rbi.org.in/history/Brief_Chro1968to1985.html
3. PwC. (2024). *Striking gold: The rise of India's gold loan market*. <https://www.pwc.in/assets/pdfs/striking-gold-rise-indias-gold-loan-market.pdf>
4. IFC, Institute for Competitiveness, & NITI Aayog. (2025). *Enhancing MSMEs competitiveness in India*. International Finance Corporation.
5. Veritas Finance Private Limited. (2025). *Report on loans and financial services industry in India*. <https://www.veritasfin.in/CRISIL-report.pdf>
6. The Economic Times. (2025, September). *Loan against property in 2025: 7 tips to get best interest rates & faster approval*. <https://economictimes.indiatimes.com/wealth/borrow/loan-against-property-in-2025-7-tips-to-get-best-interest-rates-faster-approval/loan-against-property-2025-interest-rates-amp-eligibility/slideshow/124151972.cms>
7. India Brand Equity Foundation. (2024, September 25). *Surge in credit card spends: Understanding key drivers and implications*. <https://www.ibef.org/blogs/surge-in-credit-card-spends-understanding-key-drivers-and-implications>
8. Brickwork Ratings. (2025, May 28). *Microfinance sector in India: Growth trajectory, challenges, and opportunities*. https://www.brickworkratings.com/Research/Microfinance_Sector_In_India_28May2025.pdf
9. Bhatt, T. (2019). Retail loans boom in Indian banks – Effects and efficiency of retail loans. *Prastuti: Journal of Management & Research*, 8, 18–26. <https://doi.org/10.51976/gla.prastuti.v8i1.811903>
10. Federal Deposit Insurance Corporation. (1997). Bank examination and enforcement. In *History of the eighties – Lessons for the future* (Vol. 1). <https://www.fdic.gov/resources/publications/history-eighties/volume-1/history-80s-volume-1-part3-12.pdf>
11. Dang, U. (2011). *The CAMEL rating system in banking supervision: A case study* [Bachelor's thesis, Arcada University of Applied Sciences].
12. Kankipati, A. K., & Murty, D. (2019). Impact of CAMEL model in determining the health status of Indian banking industry. *International Journal of Innovative Technology and Exploring Engineering*, 8(10), 4575–3581. <https://doi.org/10.35940/ijitee.j9937.0881019>
13. Khatri, D. K. (2019). CAMELS rating system for banks: A magnifying lens – An empirical study in India. *International Journal of Tourism & Hotel Business Management*, 1(1), 15–27. <https://www.scitcentral.com/documents/dad70eb8ef29300ff50e0380824af4b3.pdf>
14. Mahajan, P., & Bhatia, S. (2024). Performance analysis of small finance banks in India using CAMELS model. *Journal of Commerce and Accounting Research*, 13(4), 60–70. <https://doi.org/10.21863/jcar/2024.13.4.007>
15. Sahajwala, R., & Van Den Bergh, P. (2000). *Supervisory risk assessment and early warning systems* (Basel Committee on Banking Supervision Working Papers No. 4). Bank for International Settlements. https://www.bis.org/publ/bcbs_wp4.pdf
16. Rudravalambi, G. P., et al. (2023). Impact of CAMELS ratings on regulatory policies in India's financial markets. *Educational Administration: Theory and Practice*, 29(4), 2779–2782. <https://doi.org/10.53555/kuey.v29i4.7422>
17. Mayes, D. G., & Stremmel, H. (2014). *The effectiveness of capital adequacy measures in predicting bank distress*. SUERF – The European Money and Finance Forum.
18. Gopalan, Y., & Granja, J. (2023). *How (in)effective was bank supervision during the 2022 monetary tightening?*

19. CareEdge Ratings. (2025, October). *RBI proposes revised risk-weight norms to boost credit growth* [BFSI Research report]. https://www.careratings.com/uploads/newsfiles/1761895890_RBI%20Proposes%20Revised%20Risk-Weight%20Norms%20to%20Boost%20Credit%20Growth.pdf
20. Sen, S., & Basel Committee on Banking Supervision. (2014). *Basel III framework on liquidity standards – Liquidity coverage ratio (LCR), liquidity risk monitoring tools and LCR disclosure standards*. Reserve Bank of India. <https://rbidocs.rbi.org.in/rdocs/notification/PDFs/CA09062014F.pdf>
21. Moneycontrol. (n.d.). *India interest rate | Historical dates 2000–2025 data*. Retrieved October 1, 2025, from <https://www.moneycontrol.com/economic-calendar/india-interest-rate/4870699>
22. HDFC Bank Limited. (2023, July). *HDFC Ltd. to merge into HDFC Bank effective July 1, 2023* [Press release]. <https://www.hdfc.bank.in/press-release/2023/q2/hdfc-ltd-to-merge-into-hdfc-bank-effective-july-1-2023>
23. Jana Small Finance Bank Limited. (2024). *Annual report 2023–24*. https://archives.nseindia.com/annual_reports/AR_24039_JSFB_2023_2024_28052024155252.pdf
24. HDFC Bank Limited. (2024, March). *Consolidated liquidity coverage ratio* [Regulatory disclosure]. <https://www.hdfc.bank.in/content/dam/hdfcbankpws/in/en/pdf/regulatory-disclosures/2024/liquidity-coverage-ratio-disclosure-as-at-march-31-2024.pdf>
25. Jana Small Finance Bank Limited. (2025). *Investor presentation for the quarter and year ended 31st March 2025* [Investor presentation]. BSE India. <https://www.bseindia.com/xml-data/corpfiling/AttachHis/4a58bada-58b9-44b9-a4b3-c3b8f1c356b8.pdf>
26. Kadam, S., & Sethi, M. (2024). Target price accuracy of sell side analysts: Evidence from India. *Cogent Economics & Finance*, 12(1), Article 2423261. <https://doi.org/10.1080/23322039.2024.2423261>
27. Patel, H. (2021). Target price achievement and target price accuracy models: An analysis of advisory firms' recommendation for the Indian banking stocks. *Global Business Review*, 22(2), 459–473. <https://doi.org/10.1177/0972150918807090> (Original work published 2018)
28. Mehta, K., Sharma, R., & Khanna, V. (2023). Customer switching behaviour in Indian retail banking using logit regression. *International Journal of Business Excellence*, 29(4), 518–545.
29. Harvard Kennedy School. (2025, December 5). *The past & future of Indian finance*. <https://www.hks.harvard.edu/centers/mrcbg/programs/growthpolicy/past-future-indian-finance>
30. Axis Bank Limited. (2025, April). *Press release and investor presentation on the financial results of Axis Bank Limited for the quarter and year ended March 31, 2025* [Press release]. BSE India. <https://www.bseindia.com/xml-data/corpfiling/AttachHis/b419c3d1-1979-49e1-933f-f610e9832cff.pdf>