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A STUDY OF CAPITAL ADEQUACY AND ASSET QUALITY OF PUBIC AND PRIVATE SECTOR BANKS IN INDIA

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ABSTRACT

Banks have since time immomorial played the vital role of purveyor of money. But over the years, the role banks play has undergone significant changes and has expanded dramatically – going beyond merely accepting deposits and providing credit to assisting in deal-making, offering securities trading and dealing in foreign currencies and gold, manging wealth and so on. The present study analyses the performances of 26 public listed state-owned banks along with priveat sector banks on two parameter of CAMEL model, namely capital adequcy ratio and asset quality during the study period from 2015-2017. It is found that on the basis of capital adequacy ration, Indian Bank enjoys the top rank among the PSU banks and Bandhan Bank tops the rankings among private sector banks. Further, it is found that on asset quality parameter, Syndicate Bank ranked first on advances to total assets (%), SBI ranked first on net NPA as % of net advances, Allahabad Bank ranked first on net NPA to total assets and Bank of Baroda ranked first on total investments to total assets (%) among the public sector banks as on March 31st 2017. Among the private sector banks, on the asset quality paramete, City Union Bank Lid. ranked first on advances to total assets (%), HDFC Bank Ltd. ranked first on net NPA as % of net advances, Bandhan Bank ranked first on net NPA to total assets and the same organisation ranked first on total investments to total assets (%).

Keywords: Public Sector Banks, Capital Adequacy, CAMEL Model, Earning, Liquidity

INTRODUCTION

In the 1980s, the United States (US) was the first country to adopt the CAMEL rating system to conduct on site analysis of their banks' performance. In India, RBI establish the Padmanabhan Working Group (1995) who suggested the acceptance of two models for bank supervision viz., the CAMEL method for Indian banks and the CACS method for Foreign based banks in India. The CAMEL rating framework judges the banks on five different parameters viz. Capital Adequacy, Asset Quality, Management, Earnings and Liquidity. The CAMEL model was subsequently revised to CAMELS in 1996 to accommodate another parameter "S" which is "Sensitivity to Market Risk". The CAMELS ratings help to determine a bank's overall financial condition and to identify its strengths and weaknesses. RBI has been following the CAMEL model for evaluating bank performance since 1997. Camel approach is significant tool to assess the relative financial strength of a bank and to suggest necessary measures to improve weaknesses of a bank. In India, RBI adopted this approach in 1996 followed on the recommendations of Padmanabham Working Group (1995) committee.

Review of Literature

Kumar & Malhotra(2017) evaluated the performance & financial soundness of selected Private Banks in India for the period 2007-2017 by employing CAMEL approach. The study found that Axis bank is ranked first; ICICI bank ranked second; Kotak Mahindra had the third position; HDFC bank fourth position and the last position are held by IndusInd bank amongst all the selected banks. **Bharati (2017)** examines the comparative performance of principal public and private sector banks, i.e. HDFC Bank and ICICI Bank from Private Sector and State Bank of India and Punjab National Bank from the public sector. It was found that the private sector banks' performance is better than the public sector banks. Further, the whole performance of both the private sector bank is equal as well as the overall performance of both the public sector bank is also equal. **Ramya, Narmadha, Lekha, Nandhitha, & Keerthana (2017)** analyse the financial performance of State Bank of India for the study period 2012-2016 through the use of

CAMEL approach. It was concluded that there is a necessity to take compulsory strides to advance the situation of SBI in the context of limited parameters i.e., debt-equity, operating profit, and non-interest income to total income.

Palamalai & Saminathan (2016) found that public sector banks, viz. Andhra Bank, Bank of Baroda, Allahabad Bank, Punjab National Bank IDBI Bank, State Bank of Bikaner and Jaipur and UCO Bank has been ranked at the top five positions in their financial performance. The private sector banks, namely, Tamilnad Merchantile Bank, Kotak Mahindra Bank, HDFC Bank, Axis Bank, Karur Vysya Bank, ICICI Bank, Citi Union Bank and IndusInd Bank occupied the top five positions. The foreign banks such as Bank of Bahrain & Kuwait, HSBC Bank, The Royal Bank of Scotland, Deutsche Bank, CTBS Bank, Citi Bank, DBS Bank and Royal Bank of Scotland secured the top five positions during the study period. **Rozina (2016)** argued the performance of commercial banks in Bangladesh and determined that these banks did not uphold the mandatory capital and provisions against Non-Performing Assets. It was found that, there was an increasing trend in the percentage of liquid assets.

Trivedi, Rehman, & Elahi (2015) examined the comparative performance of leading public and private sector banks, i.e. Axis Bank and Kotak Mahindra Bank from Private Sector and Bank of Baroda and State Bank of India from the public sector. The study found that for the capital adequacy, all banks have capital above the required level of capital required. Bank of Baroda has the highest capital base reinforcement the confidence of the depositors. The Axis bank suggests dangerous liquidity shortage, and the organization stresses instantaneous outside support to encounter liquidity desires. **Siva & Natarajan (2011)** employed the CAMEL model to examine the performance of the SBI group. **Mathuva (2009)** studied the association between Cost Income Ratio (CIR), Capital Adequacy Ratio (CAR) and profitability for the period 1998 to 2007. The study found that capital adequacy had differential bearing on the profitability of the bank. **Said & Saucier (2003)** applied CAMEL rating methodology to assess the liquidity, solvency and efficiency of Japanese Banks. **Bhayani**

(2006), **Gupta & Kaur (2008)**, **Prasuna (2003)** used the CAMEL model for measuring bank performance and their studies have facilitated the banks to apprehend their capacities of powers and flaws.

RESEARCH METHODOLOGY

Research methodology is the conceptual structure within which research is conducted. It constitutes the blueprint for the collection, measurement and analysis of the data.

RESEARCH DESIGN

The present study is Descriptive cum exploratory in nature.

OBJECTIVES OF THE STUDY

The present study is concerned with the following objective of analyzing capital adequacy ratio and asset quality of public and private sector banks in India.

PERIOD OF THE STUDY

The present study covers a period of 17 years from the year April 2000 to March 2017.

DATA COLLECTION

This study is purely based on secondary data which is sourced from Indian bank Associations official website.

TOOLS OF ANALYSIS

The present study has been based on the popular CAMEL model yet it is not applied in full on account of unavailability of data. For this reason, ranking have been given on individual parameters only. For the purpose of ranking, the banks have been classified into two categories, namely, Public Sector Banks and Private Sector Banks.

ANALYSIS & INTERPRETATION

Capital Adequacy Ratio/ Capital to Risk Asset Ratio (CRAR)

Capital Adequacy Ratio (CAR), also stated to as Capital to Risk (Weighted) Assets Ratio is a vital metric for assessing a bank's capital. According to the Reserve Bank of India (RBI), the basic approach of capital adequacy framework is that a bank should have sufficient capital to provide a stable resource to absorb any losses arising from the risks in its business. The RBI orders

banks to maintain CAR of 9% on an ongoing basis (other than capital conservation buffer and countercyclical capital buffer etc.). Further as per the Basel III accord, formulated by the Switzerland-headquartered Bank for International Settlements (BIS), which is the world's oldest international financial organisation and whose key objective is to promote monetary and financial stability across the global banking system, all banks need to maintain tier-I capital (which comprises of equity and reserves) at 7% of Risk Weighted Assets (RWA), besides they are also required to have a capital conservation buffer of 2.5% of RWA.

CRAR is arrived at by dividing the sum of tier-I and tier-II capital by the aggregate of RWA. Mathematically, it can be stated as:

$$CAR = (Tier\text{-}I + Tier\text{-}II)/RWA$$

Tier-I capital includes equity capital and free reserves.

Tier-II capital comprise of subordinate debt of 5-7 years tenure, revaluation reserves, general provisions, and loss reserves, investment reserve account, hybrid debt capital instruments and undisclosed reserves and cumulative perpetual preference shares.

While a high CAR can mean the bank is better prepared against any future shocks, on the other hand, a very high CAR could also mean that the bank is not doing enough business. It is to be recollected that the Basel III raises CAR requirement to 11.5% from 9% currently. The RBI has extended the deadline to implement Basel III capital regulations to march 31, 2019, instead of earlier planned deadline of March 31, 2018. The extension was necessitated in the wake of the industry-wide concerns over the potential stresses on the asset quality and consequential impact on the performance/profitability of the banks. This may necessitate some lead time for bank to raise capital within the internationally agreed timeline for full implementation of the Basel III capital regulations. This, according to the banking regulator, will also align full implementation of Basel III in India closer to the internationally agreed date of January 01, 2019. The Basel III accounting standards for banks were conceptualized in the aftermath of the 2008 credit crisis, which rocked the global

banking system, in order to strengthen banks' risk management system and protect them from future shocks.

Coming soon: Higher CAR!

BASEL 3 to be implemented from March 31, 2019 raises capital adequacy requirement to a much higher level.

CRAR

On the basis of CAR/CRAR, *Indian Bank* enjoys the top rank among the PSU banks with a figure of 13.64% in FY 2016-17. In fact, the Chennai headquartered bank has consistently improved its capital adequacy ratio since 2015 when it stood at 12.86%. Interestingly, only two banks managed to have CAR of over 13% in the period under review the other bank is State Bank of India, the big daddy of Indian banking. Canara Bank, at the third spot, had a CAR of 12.85% in the said year. Four banks just managed to hold their CAR above the mandatory CAR of 9%. These included Central Bank of India (10.95%), UCO Bank (10.93%), IDBI Bank (10.70%) and Indian Overseas Bank (10.50%). State Bank of Bikaner & Jaipur barely managed to match the prescribed CAR of 9%. The SBBJ has been merged with the parent SBI with effect from April 1, 2017. (Table 1)

Table 1: Top 5 Public Sector Banks: Capital Adequacy Ratio (%)

(On the basis of Basel III)

Rank	Name of the Bank	2015	2016	2017
1	Indian Bank	12.86	13.20	13.64
2	State Bank of India (SBI)	12.00	13.12	13.11
3	Canara Bank	10.56	11.08	12.86
4	Vijaya Bank	11.43	12.58	12.73
5	State Bank of Patiala	12.06	11.50	12.43

Source: Indian Banks Association

Among private sector banks, it is the newbie Bandhan Bank that tops the rankings with a figure of 26.36%. It is followed by IDFC Bank (18.9%) and ICICI Bank (17.39%) at number two and number three on the ranking chart, respectively. Clearly, these private sector banks enjoy much higher CAR vis-à-vis state-owned banks and thus

are better prepared to usher in the Basel III regime which will be kicking in with effect from March 31, 2019. (Table 2)

Table 2: Top 5 Private Sector Banks: Capital Adequacy Ratio (%)

(On the basis of Basel III)

Rank	Name of the Bank	2015	2016	2017
1	Bandhan Bank	NA	29.01	26.36
2	IDFC Bank	NA	22.04	18.90
3	ICICI Bank	17.02	16.64	17.39
4	YES Bank	15.60	16.50	17.00
5	Kotak Mahindra Bank	17.17	16.34	16.77

Source: Indian Banks Association

Advances to Total Assets

Another significant ratio which is considered vital while evaluating banks' performances on the basis of CRAR is Advances to Total Assets. This ratio is a key component of the famous CAMEL model. Advances-to-Assets ratio is arrived at by dividing total advances by total assets.

The higher the ratio the better it is as a higher ratio shows that the bank is aggressively lending which in turn could boost its profitability. Here total advances include receivables, though value of total assets excludes revalued assets.

When compared on the basis of Advances-to-Total Assets ratio, Syndicate Bank with a figure of 66.76%, as of March 31, 2017, emerges as the best bank among all the state owned banks. The bank also improved its Advances-to-Total Assets ratio though marginally over the previous year's figure of 65.39%. It is followed by Allahabad Bank (63.60%) and Union Bank of India (63.28%) at number two and number three respectively. Central Bank of India, State Bank of Mysore and State Bank of Travancore (the latter two have now been merged into the parent SBI with effect from April 1, 2017) take the bottom three spots with figures of 41.81, 38.74 and 38.61 respectively. The low Advances-to-Total Assets ratio of an organization is an indication that it has not been able to deploy its assets effectively. It could also be that it

has been conservative in lending. But this could also be because of sluggishness in credit off-take, a scenario being witnessed in country today due to slowdown in demand which in turn has led to sluggishness in industrial activity. (Table 3)

Among private sector banks, City Union Bank, Lakshmi Vilas Bank and Karur Vysya Bank are among the top three performers in that order. (Table 4)

Table 3: Top 5 Public Sector Banks: Advances to Total Assets (%)

(As on March 31)

Rank	Name of the Bank	2015	2016	2017
1	Syndicate Bank	66.87	65.39	66.76
2	Allahabad Bank	66.00	63.53	63.60
3	Union Bank of India	66.99	66.06	63.28
4	Oriental Bank of Commerce	63.02	62.09	62.32
5	Andhra Bank	68.02	65.41	61.61

Source: Indian Banks Association

Table 4: Top 5 Private Sector Banks: Advances to Total Assets (%)

(As on March 31)

Rank	Name of the Bank	2015	2016	2017
1	City Union Bank Ltd.	64.46	66.21	67.57
2	The Lakshmi Vilas Bank Ltd.	66.19	68.52	67.33
3	The Karur Vysya Bank Ltd.	67.93	66.26	66.19
4	DCB Bank Ltd.	64.87	67.59	65.78
5	HDFC Bank Ltd.	61.90	62.72	64.20

Source: Indian Banks Association

Asset Quality

It would be an understatement to say asset quality is an important indicator of a bank's financial health. In fact, asset quality holds key to a bank's very survival. For any serious impairment in assets could imperil the solvency of a banking (or financial entity for that matter). Asset quality also holds significance from a bank's point of view as any future losses have to be written-off

against those assets, which in turn could hurt its future profits. Asset quality is evaluated using things like extent of Non-Performing loans/Assets (better known as NPAs), provisions ratio, distribution of assets etc. This study uses ratios like Net NPA to Net Advances (%), Net NPA to Total Assets (%), and Total Investments to Total Assets (%) to analyze how banks have performed on this particular.

NNPA to NA

Talking about the first ratio, i.e. it can be recalled how the NPA issue affected the banking sector, particularly the PSU banks badly and in fact continues to be a major headache for a most of the PSBs. In fact, the issue has now become so serious that if soon an effective solution is not devised it could even threaten the very existence of a few already weakened state-owned banks. Turning to the ratio, the bank which has done relatively better than is peers among PSBs is SBI with a figure of 3.71%. It is followed by Vijay Bank and Indian Bank with figures 4.36% and 4.29% respectively. Not so surprisingly, 22 PSU banks, barring Bank of Baroda had net NPA to Net Advances of over 5% in the FY 2016-17. In fact, shockingly, 10 PSBs had net NPA to Net Advances in double digits as at the end of FY 2016-17. State Bank of Mysore (now merged with SBI) had the highest Net NPA to Net Advances of nearly 17% as of March 31, 2017. State Bank of Patiala (Net NPA of 15.5%) and Indian Overseas Bank with Net NPA (%) of 14% are the other two worst performers in terms of Net NPA to Net Advances. (Table 5)

Table 5: Top 5 Public Sector Banks: Net NPA as % of Net Advances

(As on March 31)

Rank	Name of the Bank	2015	2016	2017
1	State Bank of India	2.12	3.81	3.71
2	Vijaya Bank	1.91	4.81	4.36
3	Indian Bank	2.50	4.97	4.39
4	Bank of Baroda	1.89	5.06	4.72
5	Syndicate Bank	1.90	4.48	5.21

Source: Indian Banks Association

Expectedly, private sector banks have done much better when it comes to dealing with the NPA issue. In fact, as the statistics show, NPA is hardly an issue for private sector lender. Coming to rankings, HDFC Bank, the second largest private sector bank in the country, takes the top rank, followed by Bandhan Bank and IndusInd Bank at 2nd and 3rd spots, respectively. However, HDFC Bank's arch rival, ICICI Bank is not as lucky and is lying at 20th spot with quite a high figure of 4.9% in FY 2017. The Catholic Syrian Bank Ltd. is the worst performer among all the private sector banks on the parameter of NNPA to NA. (Table 6)

Table 6: Top 5 Private Sector Banks: Net NPA as % of Net Advances

(As on March 31)

Rank	Name of the Bank	2015	2016	2017
1	HDFC Bank Ltd.	0.25	0.28	0.33
2	Bandhan Bank	NA	0.08	0.36
3	Induslnd Bank Ltd.	0.31	0.36	0.39
4	RBL Bank	0.27	0.59	0.64
5	DCB Bank Ltd.	1.01	0.75	0.79

Source: Indian Banks Association

NNPA to TA

Moving on, the next key parameter to analyze asset quality of a bank is Net NPA to Total Assets (%). It is obvious lower the ratio the better it is. Allahabad Bank (2.15%), Andhra Bank (2.57%) and Bank of Baroda (2.60%) are the three best performers on this particular parameter, in that order. Ten PSBs have Net NPA (NNPA) to Total Assets (TA) of 5% or above which is certainly worrisome. In fact, IDBI Bank is the worst performer on this parameter with Net NPA to Total Assets of close to 9%. (Table 7)

Table 7: Top 5 Public Sector Banks: Net NPA to Total Assets (%)

(As on March 31)

Rank	Name of the Bank	2015	2016	2017
1	Allahabad Bank	1.35	2.37	2.15

2	Andhra Bank	1.63	2.66	2.57
3	Bank of Baroda	1.13	2.89	2.60
4	Bank of India	1.16	2.94	2.66
5	Bank of Maharashtra	1.27	2.93	3.48

Source: Indian Banks Association

The picture is more or less same here too with almost all the private sector banks maintaining low to very low NNPA to TA ratio. But ICICI Bank and J&K Bank, which share the bottom tow ranks, had high ratios of 3.30% and 4.18% respectively. (Table 8)

Table 8: Top 5 Private Sector Banks: Net NPA to Total Assets (%)

(As on March 31)

Rank	Name of the Bank	2015	2016	2017
1	Bandhan Bank	0.00	0.05	0.20
2	HDFC Bank Ltd.	0.15	0.18	0.21
3	IndusInd Bank Ltd.	0.19	0.23	0.25
4	RBL Bank	0.14	0.32	0.39
5	YES Bank	0.06	0.17	0.50

Source: Indian Banks Association

Total Investments (TI) to Total Assets (TA) (%)

This ratio states about the level of deployment of assets as investment vis-à-vis advances. Of course, a higher ratio means that either bank is shying away from lending and hence has opted to act conservatively by parking funds in investment instruments, or it is just that there are not enough takers for it loans. Also, this could be due to rising NPA levels and hence bank has decided to protect itself by not exposing itself further by curtailing lending activities, though this in turn could hurt its profitability. It is to be mentioned that income from investments is not considered a part of core income of the bank. Bank of Baroda has done well on this front. It tops the performance chart on the parameter of TI/TA with a figure of 18.66% in FY 2016-17. Bank of India (20.41%) is the second best performing PSB on this parameter, followed by Syndicate Bank (21.89%). United Bank of India has the highest TI/TA ratio of 37.60% among the PSBs during the period under review. Given

it has been hit the hardest by the NPA issue; it is not difficult to understand why the bank maintained a conservative stance in terms of lending activities. Another fact that originates from the analysis is that six banks have TI/TA of over 30%. That means these banks have parked nearly a third of their assets in investments. Apart from their own conservative stance, a general slowdown in credit off-take could also be the reason for these banks' relatively higher TI/TA ratio. (Table 9)

Table 9: Top 5 Public Sector Banks: Total Investments/Total Assets (%)

(As on March 31)

Rank	Name of the Bank	2015	2016	2017
1	Bank of Baroda	16.34	17.94	18.66
2	Bank of India	19.36	19.49	20.41
3	Syndicate Bank	22.87	22.28	21.89
4	Allahabad Bank	24.21	23.83	23.27
5	Oriental Bank of Commerce	26.91	27.62	23.40

Source: Indian Banks Association

Bandhan Bank continues to surprise with extraordinary performance here too. It tops the ranking chart with a figure of 18.24% in FY 2017. City Union Bank (ranked 2nd) and Induslnd Bank (ranked 3rd) are the other two best performers on this parameter (Table 10).

Table 10: Top 5 Private Sector Banks: Total Investments/Total Assets (%)

(As on March 31)

Rank	Name of the Bank	2015	2016	2017
1	Bandhan Bank	0.00	19.02	18.24
2	City Union Bank Ltd.	21.06	21.46	19.94
3	IndusInd Bank Ltd.	20.47	23.83	20.54
4	ICICI Bank Ltd.	24.47	22.26	20.93
5	Kotak Mahindra Bank Ltd.	27.03	26.66	21.00

Source: Indian Banks Association

CONCLUSION

Currently, there are 21 public sector banks functional in the country. Besides, there also exist 21 private sector banks which include 13 old private banks while number of foreign banks operating in India stand at 44 as on FY 31st March 2017. It is found that on the basis of capital adequacy ration, Indian Bank enjoys the top rank among the PSU banks and Bandhan Bank tops the rankings among private sector banks. Further, it is found that on asset quality parameter, Syndicate Bank ranked first on advances to total assets (%), SBI ranked first on net NPA as % of net advances, Allahabad Bank ranked first on net NPA to total assets and Bank of Baroda ranked first on total investments to total assets (%) among the public sector banks as on March 31st 2017. Among the private sector banks, on the asset quality paramete, City Union Bank Lid. ranked first on advances to total assets (%), HDFC Bank Ltd. ranked first on net NPA as % of net advances, Bandhan Bank ranked first on net NPA to total assets and the same organisation ranked first on total investments to total assets (%).Given the current NPA situation, it would be highly unfair to expect the banks, especially PSBs to make an early recovery. Nevertheless one must appreciate the determination and resolve shown by the government and the apex bank in early resolution of the crisis. The introduction of Insolvency and Bankruptcy Code is one such important step. One could conclude that there is no justification for comparing private sector banks with public sector banks as the priorities and preferences for asset allocation are quite different. PSBs have more areas of social cause and economic development rather than purely focusing on commercial banking.

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