Dr. Deval G. Vyas (November 2022). ANALYSIS OF LIQUIDITY OF SELECTED NATIONALISED BANKS IN INDIA
International Journal of Economic Perspectives,*16*(11),22-33
Retrieved from https://ijeponline.org/index.php/journal

ANALYSIS OF LIQUIDITY OF SELECTED NATIONALISED BANKS IN INDIA

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ABSTRACT

One of the most critical tasks for bank management is to measure and satisfy a bank's liquidity demands. Long-term profitability may suffer if a bank holds a substantial proportion of its money in low-earning liquidity sources in comparison to its demands for such liquidity. The current study is an analytical examination of the financial performance of chosen nationalised banks in India in terms of liquidity. For analytical purposes, several ratios including the F-Test were utilised, and it was discovered that some banks with more liquidity had poorer productivity and profitability. This demonstrates the need of good liquidity management in order to improve productivity and profitability, as excessive liquidity has a negative impact on the bank's performance.

Keywords:- Liquidity, nationalized bank, Liquid Assets to Total Assets and Liquid Assets to Total Deposits

INTRODUCTION

On the other side, insufficient liquidity can result in severe financial problems and possibly bank collapse. As a result, the bank must establish the optimal amount of liquidity. One of the most important duties of banks is to provide liquidity to its clients. As a result, it is critical that the bank maintains a reasonable level of liquidity. If a bank can obtain extra money at a lower cost in a shorter period of time than another bank, the bank's liquidity position is regarded superior than the other bank. Liquidity requirements varies from bank to bank due to the diverse client profiles. As a result, each bank must examine its liquidity requirements depending on the structure and composition of its assets and liabilities.

Liquidity ratios are the key tool for assessing a bank's liquidity condition. As we all know, the 'current ratio' (current assets divided by current liabilities) is the key ratio used to gauge liquidity in businesses. However, there are no globally acknowledged liquidity ratios for banks. One explanation for this is that non-financial business liabilities are relatively predictable due to set maturities, but a considerable part of bank liabilities are repayable on demand. The researcher examines the following liquidity ratios to assess the liquidity of selected nationalised banks: Liquid Assets to Total Assets and Liquid Assets to Total Deposits.

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Submitted: 27 July 2022, Revised: 09 August 2022, Accepted: 18 August 2022, Published: Nov 2022

LITERATURE REVIEW

Anil P. KULKARNI evaluates the overall financial situation of chosen urban cooperative banks in the Pune district. For the study, the researcher chose 13 urban cooperative banks. The researcher discovered that all banks prepared their financial statements in accordance with the directives of the Cooperative Department and the Reserve Bank of India, while all banks did not provide extra information in accordance with the RBI's disclosure rules. With a few exceptions, the paid-up capital of all 13 banks climbed year after year, while deposits and advances increased by more than 10% each year.

Medhat Tarawneh (2006) examined five Omani commercial banks with over 260 branches for financial analysis. The influence of Asset Management, operational efficiency, and bank size on the financial performance of these banks was estimated using simple regression analysis. The regression analysis findings revealed that, in addition to bank size, operational efficiency and asset management had a large and favourable effect on financial success.

Dr. B.S.Bodla and Ms. Richa Verma (2006) employed multivariate regression analysis for the investigation, which spanned thirteen years from 1991-92 to 2003-04. Following the research, it was discovered that non-interest income, operating expenses, provisions and contingencies, and spread had high explanatory power, implying that they had a significant relationship with net profit. However, among these two variables, provisions and contingencies and operating expenses had a negative relationship.

Maneesh Kant Arya's (2010) research looked at how liberalisation allowed private and foreign banks to enter the market, which had a direct impact on the performance of public sector banks. According to the researcher, the performance of Indian banks showed a mixed trend over the study period, but it was nevertheless increasing gradually and with decent stability. According to the research, public sector banks managed NPAs efficiently and decreased net NPAs relative to net advances over the study period.

Ahmed Arif Almazari (2011) was tasked with analysing the financial performance of seven Jordanian commercial banks from 2005 to 2009. According to the study, more overall assets, credits, and deposits for shareholders equity do not necessarily imply better profitable performance.

Dr. Vikas Choudhary and Suman Tandon (2011) examine commercial banks following financial reforms. The researcher compared the performance of public sector, private sector, and foreign sector banks using various variables such as share of aggregate deposit of various banks, region wise distribution of branches, net profit, gross profit, non-performing assets, and capital adequacy ratio. The researcher determined that the aggregate

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deposit of private sector banks was expanding, while public sector banks had the largest part of aggregate deposit.

Dr. Aparna Bhatia and colleagues (2012) investigated the drivers of profitability in India's private sector banks. Researchers discovered that the bigger the spread ratio, the better the profitability, generating more non-interest revenue positively affects the ROA, and enhanced labour efficiency increases profitability using the regression analysis approach. Furthermore, it was shown that in order to boost profitability, banks should focus on decreasing operational expenditures, since they have a negative influence on bank profitability, in addition to nonperforming assets and provisions and contingencies.

Liberalization, financial and banking sector reforms, globalisation, quick innovations, changing client needs, and the rise of information technology, according to Smita Jesudasan (2013), have fueled changes and difficulties in the Indian banking industry. According to the study's conclusions, the best nationalised banks in terms of financial performance are Andhra Bank, Bank of Baroda, Bank of India, Corporation Bank, and Oriental Bank of Commerce. According to the researcher, nationalised banks should excel in the areas of management, asset quality, liquidity, profits, and effectiveness.

S. Rubavathy (2014) has made some efforts to analyse the performance of Indian schedule commercial banks from many angles such as financial performance, technological innovation, banking service penetration, and customer retention. When researchers examined the penetration of banking services in India, they discovered that more bank offices were opened in rural regions than in other locations throughout the study period. It was discovered that 36% of businesses were located in rural regions, 26% in semi-urban areas, 20% in urban areas, and 18% in metropolitan areas, indicating a higher concentration of branches in rural areas than in other locations.

Godfrey Marozva (2015) did this research to determine the association between liquidity and bank performance in South African banks. The autoregressive distributed lag (ADRL)-bound testing strategy and the ordinary least squares (OLS) method were employed by the researchers to investigate the relationship between liquidity and net interest margin. In the long term, there was no clear relationship between net interest margin and market liquidity, financing liquidity, or credit risk, according to research. The researcher also proposed that further study be done to assess liquidity in the setting of asset liability mismatches.

Dr. D.Mahila Vasanthi Thangam and Ms.Thoushifa.T (2016) did a study to assess the link between bank profitability and productivity. Furthermore, it was shown that public sector banks in India had the lowest productivity yet the greatest number of branches and personnel. The researcher concluded that rightsizing banks is the only way to boost

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productivity in the Indian banking industry and achieve the aim of Indian financial sector reforms and improving the Indian banking sector to international standards.

Ms. Pallavi1 and Dr. Rajni Saluja (2017) want to assess financial performance of chosen scheduled commercial banks in terms of branch, staff, and financial productivity. The researcher concluded that the performance of scheduled commercial was better in terms of branch productivity based on total advances per branch than other ratios, and employee productivity was better based on total deposits for employees than other ratios, whereas credit deposit ratio was better than return on assets and return on equity.

R. K. Uppal and Rupani (2017) examine the productivity of public, private, and foreign sector banks during the pre- and post-mature IT eras. The researcher determined that, in compared to private and foreign sector banks, public sector banks benefit the most from information technology. In India, public sector banks are among the oldest players in the financial system, having joined the game with a solid economic foundation. To compete with private and foreign sector banks that have a strong technological foundation, public sector banks have frequently sponsored training and development programmes.

Jena Rupak Kumar was tasked with investigating the entire productivity and profitability growth of four bank groups: SBI, nationalised banks, private sector banks, and foreign sector banks. This study spanned a 20-year period, from 1991-1992 to 2010-2011. The study's findings revealed that during the second phase of reforms, the complete sample analysis demonstrated a decrease in establishment expenditures, other expenses, and a rising trend in other revenue, which was the key predictor of profitability. Among the four sample bank groups, SBI gained profitability as a result of higher other income and lower setup and other expenditures.

LIQUID ASSETS TO TOTAL ASSETS RATIO:

The percentage of liquid assets in the bank's asset structure is shown by liquid assets as a percentage of total assets. The greater the share of liquid assets in total assets, the greater the bank's liquidity. The majority of financial institutions store little cash, preferring to put liquid assets to productive use. While asset productivity is vital, in a liquidity crisis, a low Liquid Assets to Total Assets ratio can be detrimental to the organization's financial health and survival. This method can result in a Liquid Assets to Total Assets ratio that is very low or close to zero. Banks often consider cash + balances with the RBI + balances with other banks + money market instruments to be liquid assets. The Liquid Assets to Total Assets ratio is calculated as follows:

$$\textbf{Liquid Assets to Total Assets Ratio} = \frac{Liquid\ \ Assets}{total\ \ Assets} \times 100$$

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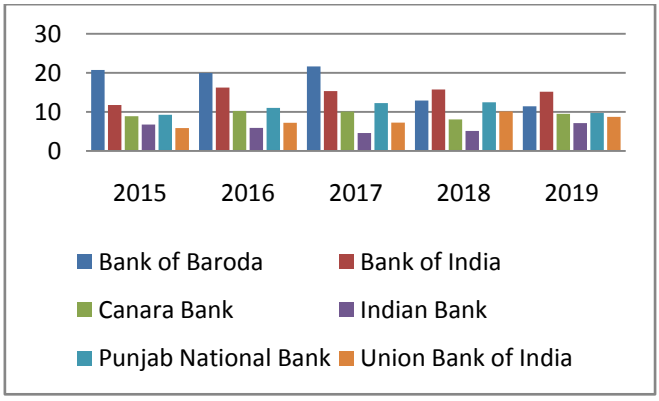
Table 1 Liquid Assets to Total Assets Ratio of SelectedNationalized Banks

Banks	Years				
	2015	2016	2017	2018	2019
Bank of Baroda	20.75	19.94	21.65	12.90	11.43
Bank of India	11.75	16.25	15.31	15.73	15.16
Canara Bank	8.88	10.26	10.08	8.09	9.52
Indian Bank	6.78	5.89	4.60	5.12	7.15
Punjab National Bank	9.27	11.03	12.26	12.47	9.72
Union Bank of India	5.86	7.23	7.25	10.14	8.71

(Source: Collected and Computed from RBI & Annual Reports of Selected Nationalized Banks)



Graph 1 Liquid Assets to Total Assets Ratio of SelectedNationalized Banks

During the research period, the above table and graph depicted the connection between Liquid Assets and Total Assets of chosen nationalised banks. This is a critical ratio for evaluating a bank's liquidity management. For urgent payments, liquidity is critical. The researcher discovered that the ratios of Bank of Baroda, Bank of India, and Canara Bank fluctuated during the study period, with the ratio of Indian Bank decreasing from 2015 to 2017 and then increasing in 2018 and 2019, and the ratio of Punjab National Bank and Union Bank of India increasing except in 2019.

The researcher examined the performance of chosen nationalised banks and determined the best and worst results for each year of the study period. The highest ratio (20.75%) is noticed in Bank of Baroda and the lowest ratio 5.86% is noticed in Union Bank of India in the year 2015, then the highest ratio again registered by Bank of Baroda i.e., 19.94% and the lowest ratio 5.89% is registered by Indian Bank in the year 2016, but in the third

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year 2017, the researcher found the highest ratio in Bank of Baroda i.e., 21.65% and the lowest ratio 4.60% is found in Indian Ban 5.12 percent is recorded in Indian Bank in 2018, and the greatest ratio 15.16 percent is found in Bank of India in the last year of the research period, while the lowest ratio 7.15 percent is observed in Indian Bank when compared to other chosen nationalised banks.

Table 2 Statistical Summary of Liquid Assets to TotalAssets Ratio

SUMMARY				
Groups	**Count**	**Sum**	**Average**	**Variance**
Bank of Baroda	5	86.67	17.334	22.90143
Bank of India	5	74.2	14.84	3.1629
Canara Bank	5	46.83	9.366	0.79928
Indian Bank	5	29.54	5.908	1.15877
Punjab National Bank	5	54.75	10.95	2.09205
Union Bank of India	5	39.19	7.838	2.67187

Table 2 gives a statistical overview of selected nationalised banks' Liquid Assets to Total Assets Ratio. Among the other selected banks, Bank of Baroda has the greatest average mean (17.334), while Indian Bank has the lowest average mean (5.908). Aside from that, the average mean for all other chosen banks ranged from 7.316 to 14.84 over the research period. Aside from that, the largest variance is 22.90143 for Bank of Baroda. It demonstrates a high liquidity ratio; in other words, a large variance implies that the ratios in the collection are distant from the mean and from one another. Canara Bank, on the other hand, has the lowest variance (0.79928) among all other banks, indicating that it has a low liquidity ratio during the research period. In other words, a low variance suggests that the ratios in the set are fairly near to the mean and to one another. Aside from that, all other selected banks varied between 1.15877 and 22.90143 during the research study.

H_0: The Liquid Assets to Total Assets ratio of selected Nationalized Banks does not differ significantly.

H_1: The Liquid Assets to Total Assets ratio of selected Nationalized Banks differs significantly.

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Table 3 "F"-Test One Way Analysis of Variances for Liquid Assets to TotalAssets Ratio

ANOVA					
Source of Variation	**SS**	**DF**	**MS**	**FCal**	**F crit**
Between Groups	550.1374	6	61.12638	5.835808	2.124029
Within Groups	418.9745	38	10.47436		
Total	969.112	44			

The Single Factor ANOVA of Liquid Assets to Total Assets Ratio is shown in Table 3. The test was used to determine whether or not there is a significant variation in the Liquid Assets to Total Assets Ratio of selected nationalised banks. The estimated value of F in this case is 5.83580, whereas the critical/table value for the 6, 38 degree of freedom at 5% level of significance is 2.124029. The computation above shows that the estimated value for F is bigger than the table value for F. As a result, the null hypothesis H0 is rejected and the alternative hypothesis H1 is accepted, indicating that there is a substantial difference in the Liquid Assets to Total Assets Ratio of chosen nationalised banks.

LIQUID ASSETS TO TOTAL DEPOSIT RATIO

This ratio represents the amount of liquidity kept on hand by a bank to fulfil depositor demand. This ratio demonstrates that the bank's liquidity requirements are closely proportional to the volume of its deposits at any given time. Liquid Assets of the banks includes cash in hand, balance with RBI and other banks; money at call & short notice and Total Deposits consist demand deposit, saving deposits, term deposits and deposits of other banks/financial institutions. Banks' liquid assets include cash on hand, balances with the RBI and other banks, money on call and on short notice, and total deposits, which comprise demand deposits, savings deposits, term deposits, and deposits from other banks/financial institutions. The following formula is used to compute the ratio:

Liquid Assets to Total Deposit Ratio $= \frac{Liquid\ \ Assets}{total\ \ Deposits} \times 100$

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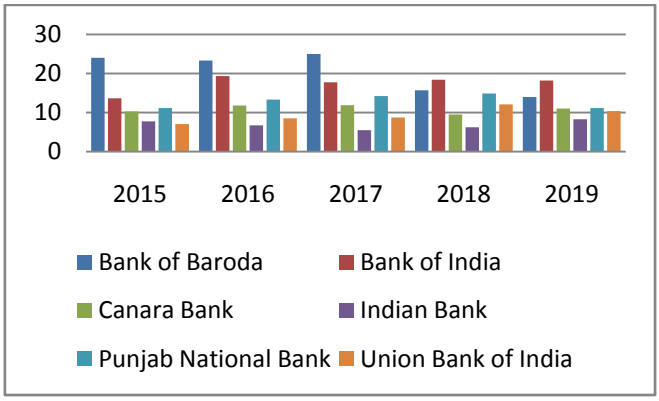
Table 4 Liquid Assets to Total Deposit Ratio of SelectedNationalized Banks

Banks	Years				
	2015	2016	2017	2018	2019
Bank of Baroda	24.02	23.33	25.01	15.71	13.97
Bank of India	13.66	19.33	17.76	18.41	18.2
Canara Bank	10.27	11.82	11.88	9.51	11.04
Indian Bank	7.73	6.73	5.5	6.21	8.27
Punjab National Bank	11.16	13.31	14.21	14.86	11.14
Union Bank of India	7.06	8.54	8.73	12.1	10.35

(Source: Collected and Computed from RBI & Annual Reports of Selected Nationalized Banks)



Graph 2 Liquid Assets to Total Deposit Ratio of SelectedNationalized Banks

During the research period, the above table and graph show the connection between Liquid Assets and Total Deposits of selected nationalised banks. The researcher discovered that the ratio of Bank of India shows a decreasing trend except in the year 2017, that the ratio of Bank of India shows a mixed trend during the study period, that the ratio of Canara Bank shows an increasing trend in the years 2016 and 2017 and then a mixed trend in the remaining two years of the study period, that the ratio of Indian Bank shows a decreasing trend in the years 2016 to 2017 and then a ratio increase in the years 2018 and 2019, that the ratio of Indian Bank shows a decreasing trend in the years Except for 2019, the ratios of Punjab National Bank and Union Bank of India indicate a growing tendency.

In the year 2015, the researcher evaluated the year-wise ratio of Liquid Assets to Total Deposits of chosen nationalised banks and discovered the greatest ratio 24.02 percent in Bank of Baroda and the lowest ratio 7.06 percent in Union Bank of India. The highest ratio, 23.33 percent, is observed again in Bank of Baroda, and the lowest ratio, 6.73 percent,

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is observed in Indian Bank in the second year 2016. In the third year 2017, the researcher discovered the highest ratio, 28.01 percent, in Bank of Baroda, and the lowest ratio, 5.50 percent, in Indian Bank. The highest ratio (18.41%) is observed in Bank of India, and the lowest ratio (6.21%) is observed in Indian Bank. In the fifth year of the study period 2019, the highest ratio (18.2%) is observed in Bank of India, and the lowest ratio (8.27%) is observed in Indian Bank, as compared to other selected nationalised banks.

Table 5 Statistical Summary of Liquid Assets to TotalDeposits Ratio

SUMMARY				
Groups	**Count**	**Sum**	**Average**	**Variance**
Bank of Baroda	5	102.04	20.408	26.57052
Bank of India	5	87.36	17.472	4.86907
Canara Bank	5	54.52	10.904	1.03883
Indian Bank	5	34.44	6.888	1.25752
Punjab National Bank	5	64.68	12.936	2.96113
Union Bank of India	5	46.78	9.356	3.71173

Table 5 gives a statistical overview of selected nationalised banks' Liquid Assets to Total Deposits Ratio. According to the table, Bank of Baroda has the greatest average mean, 20.408, among all other selected banks, whilst Indian Bank has the lowest average mean, 6.888, among all other selected banks. Aside from that, the average mean for all other chosen banks ranged from 8.43 to 17.472 over the research period. Aside from that, Bank of Baroda has the greatest variance, which is 26.57052. It demonstrates a high liquidity ratio; in other words, a large variance implies that the ratios in the collection are distant from the mean and from one another. However, Canara Bank has the lowest variance (1.03883) among all other selected banks, indicating that it has a low liquidity ratio during the study period. In other words, a low variance implies that the ratio in the set is relatively near to the mean and from one another. Aside from that, all other selected banks had a variation ranging from 1.25752 to 26.57052 during the research investigation.

H_0: The Liquid Assets to Total Deposits ratio of selected nationalised banks does not differ much.

H_1: The Liquid Assets to Total Deposits ratio of selected nationalised banks differs significantly.

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Table 6 "F"-Test One Way Analysis of Variances for Liquid Assets to Total Deposits Ratio

ANOVA					
Source of Variation	**SS**	**DF**	**MS**	**F Cal**	**F crit**
Between Groups	770.5753	6	85.61948	6.690674	2.124029
Within Groups	511.8736	38	12.79684		
Total	1282.449	44			

The Single Factor ANOVA of Liquid Assets to Total Deposits Ratio is shown in Table 6 above. This test was used to determine whether or not there is a significant variation in the Liquid Assets to Total Deposits Ratio in selected nationalised banks. In this case, F is calculated to be 6.690674, whereas the critical/table value for the 9, 40 degree of freedom at 5% level of significance is 2.124029. The table value demonstrates that the computed value for F is bigger than the table value. As a result, the null hypothesis H0 is rejected and the alternative hypothesis H1 is accepted, indicating that there is a substantial difference in the Liquid Assets to Total Deposit Ratio of chosen nationalised banks.

FINDINGS

The ratio matrix is concerned with the liquid assets to total deposit ratio. This ratio represents the amount of liquidity kept on hand by a bank to fulfil depositor demand. The average ratio research reveals that Bank of Baroda has the greatest average, 20.408, while Indian Bank has the lowest average, 6.888. Observing the ratio matrix, it was discovered that over the five-year research period, Indian Bank had the lowest ratio 5.5% in the year 2017 when compared to the other selected banks. According to the statistical analysis performed using the F-Test and One-Way Analysis of Variance, the null hypothesis was rejected and the alternative hypothesis was accepted, indicating that there is a significant difference in the Liquid Assets to Total Deposits ratio of selected nationalised banks.

The ratio is known as the liquid assets to total assets ratio. In comparison to the other banks in the research, the computation of the average ratio shows that Bank of Baroda has the greatest average, 17.334, while Indian Bank has the lowest average, 5.908. In 2017, Indian Bank recorded the lowest ratio of 4.60. The F-Test statistical analysis reveals that the calculated value of f was greater than the table value of f, so the null hypothesis is rejected and the alternate hypothesis is accepted, indicating that there is a significant difference in the Liquid Assets to Total Assets ratio of selected nationalised banks.

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CONCLUSIONS

Liquidity ratios are the key tool for assessing a bank's liquidity condition. Indian Bank and Union Bank of India may improve their liquidity situation by increasing their liquid assets, since they have lower Liquid Assets to Total Assets, Liquid Assets to Total Deposits, and Liquid Assets to Demand Deposits ratios. Higher term loans with longer payback periods typically stifle a bank's liquidity. Banks should prioritise working capital finance and take a more selective approach to project finance with a longer moratorium period. Aside from these, if a bank experiences unexpected cash outflows in the form of large deposit withdrawals or unexpected market fluctuations on large credit disbursements, the bank's liquidity may suffer, affecting customers' and investors' confidence in the bank as well as its profitability and credit worthiness in the long run. The inability of a bank to fulfil its liabilities when they come due raises the bank's liquidity risk. To avoid such a crisis, banks must keep and invest in liquid assets. The current study is an analytical examination of the financial performance of chosen nationalised banks in India in terms of liquidity. For analytical purposes, several ratios including the F-Test were utilised, and it was discovered that some banks with more liquidity had poorer productivity and profitability. This demonstrates the need of good liquidity management in order to improve productivity and profitability, as excessive liquidity has a negative impact on the bank's performance. On the other side, some banks have better profitability but lower liquidity; such banks must manage liquidity risk for long-term profitability.

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