International Journal of 360 Management Review, Vol. 07, Issue 01, April 2019, ISSN: 2320-7132

Analysis of Scheduled Commercial banks: Bankometer Model

Dr. Parveen Chauhan

Associate Professor, Faculty of Management and Commerce,

Jagan Nath University, Bahadurgarh, Haryana (India).

Email: parveen.chauhan@jagannathuniversityncr.ac.in

Dr. Sushil Kumar

**Assistant Professor, Faculty of Management and Commerce,

Jagan Nath University, Bahadurgarh, Haryana (India).

Email: sushil.kumar@jagannathuniversityncr.ac.in

Abstract

The present study is an attempt to investigate the soundness of Indian commercial banks in the light of Bankometer framework. The Bankometer framework is an internationally-accepted tool to examine the performance of financial institutions. To investigate the soundness of Indian banks, a data set of 62 banks for the period 2009-2018 is taken. The sampled banks include those banks which remain in existence during the study period. It is found foreign sector banks along with new private banks are the best achiever in terms of the Bankometer framework. Public sector banks have registered relatively low performance. Old private banks as a group are among the moderate sound in the Indian banking system.

Key words: Bankometer, Commercial bank, S-Score, Financial Soundness, Capital adequacy.

1. Introduction

It is all around perceived in the theory and practice that the execution and the measure of the money related division assume a huge job in accomplishing the supported monetary development in any financial framework. This job of the budgetary part basically originates from the way that monetary intermediation has unmistakable job in increasing the complete size of investable assets in the economy. There is a long discussion with respect to the heading of connection between monetary advancement and financial development. Schumpeter (1911) contended that well working banks can distinguish imaginative business people that permit reserves being directed to the most encouraging ventures. On a similar line as of late crafted by McKinnon (1973), Shaw (1973) and Fry (1995) underlined that money related markets have a key job in financial movement. Other work by Levine (1997) has additionally appeared money related middle person improvement does emphatically effect on the financial development.

As opposed to this methodology, Robinson (1952) and Stiglitz (1994) contended that economic development makes demand for money related administrations and along these lines prompts budgetary advancement. They suggested that economic development makes extra requests for money related administration which lead to increasingly created budgetary division. Later hypothetical writing of the budgetary advancement depends on the endogenous development theory. This theory recommends that a budgetary middle person positively affects a relentless state development. In the ongoing past quantities of experimental works were directed based on speculations identified with connection between monetary advancement and financial development and there is wide agreement that money related improvement advances financial development.

2. Profile of Indian banking sector

The Indian financial system is composed of different institutions and these institutions are assigned with certain specific role in the system. In India, financial institutions are regulated by Reserve Bank of India and these institutions can be broadly categorized into three parts- commercial banks, cooperative banks and other financial institutions. The commercial banks and cooperative banks are the providers of short-term finance. At the time of independence of the country in 1947, the banking sector in India was relatively small and inherited an extremely weak structure. Majority of banking activities were concentrated in metropolitan, urban centers and towns. The advances and loans extended by banks were biased towards working capital for trade and large firms. Such services were not extended to different sectors of the economy e.g. agriculture, small industries and therefore the need arise for the inclusive growth in the financial segment of the economy. In continuation of this thinking, government first executed the practice of nationalization of a significant part of the Indian banking structure in the year 1955 in the form of nationalization of Imperial Bank of India. After that significant landmark in Indian banking took place in 1969 and all large private banks were nationalized in 1980. The nationalization of banks with this objective made the banks more amenable to follow government policies. The declared policy of the government was to control the commanding heights of the economy for the purpose of meeting the development needs of the economy in conformity with plan objectives. In this regulated environment, nationalized as well as non-nationalized banks were severely restricted through various fund deployment regulations and strict branch licensing policies. Particularly directed lending to priority sector as defined by the government, strict control over rate of interest to be charged from various categories of customers and discouragement to competition was the major policy restriction imposed on the management of banks in India.

As a result of the policy of nationalization of banking sector, more than 90 percent of India's banking sector was put under direct state control. The public sector commercial banks are divided into three categories- (i) State Bank Group- it includes eight banks consisting of State Bank of India and associated banks of SBI. (ii) National Banks- this group includes 19 banks. In 1969 the government nationalized 14 scheduled commercial banks, this was followed by six more in 1980. In 1993, merger of New Bank India with Punjab National Bank reduced the number from 20 to 19. Nationalized banks are wholly owned by the government, although some of them have made public issues. (iii) Regional Rural Banks (RRB's) - In 1975 to meet the rural credit demand special type of banks were established with the sponsorship of State Bank Group and nationalized banks including the partnership of individual states. The other dominant group of commercial banks comes under the private sector banks. It is those banks where equity is held by private share holders and there is absence of government holding of the equity share. Foreign banks are those banks which are registered and headquartered in overseas centers but have opened branches in India on a continual basis.

In 1990s, financial sector reforms were introduced in India to make the financial sector consistent with market economy. The balance of payments crisis arose in 1990 rapidly brought forward the imperatives for financial sector strengthening. In 1991, the government appointed a high level committee on the financial system (the Narsimham Committee) to look into all aspects of the financial system and make comprehensive recommendations for its reform. This committee made number of recommendations regarding operational flexibility and functional autonomy of the banking sector. The acceptance of recommendations of the first Narsimham Committee was considered as first step taken by the government to enhance efficiency, productivity and profitability of Indian banking sector. The financial sector reforms in India were focused on two approaches. The first is focused on liberalization, seeks to reduce the number of direct controls over banks to introduce the efficiency and productivity in the system. The second emphasize on stronger regulation of financial sector for its stability. The major reforms introduced in the financial sector since past one and half decade include

- Interest rates have been deregulated with banks providing greater freedom to determine their rates.
- Lowering of SLR and CRR releasing more profitable resources which banks can deploy profitably.
- Adoption of global prudential standards in terms of capital adequacy, asset classification, income recognition, provisions, exposure limits, and investment fluctuation reserve, etc.
- Government stake in banks has been reduced and capitally sound banks have been allowed to access the capital market for raising supplementary capital.
- With a view to increasing competition in the banking sector new private sector banks were licensed.
- New sources for bank financing e.g. insurance, credit cards, infrastructure financing, leasing, gold banking were introduced, besides the course of investment banking, asset management and factoring.
- Limits for investment have been liberalized in overseas markets by banks, asset management companies and corporate.
- RBI guidelines have been issued regarding risk management system for banks. Risk Management Committees in banks covered various risks e.g. credit risk, market risk and operational risk. Banks also established specialized committees to manage various risks and upgraded their risk management skills and systems.
- The limit for FDI in private sector banks has been increased from 49 percent to 74 percent and the 10 percent cap on voting rights has been isolated. In addition, the limit for FDI investment in private banks is 49 percent.

Besides these reforms, for better monitor of the banking system the Off-site Monitoring and Surveillance System was initiated in 1995 as an additional tool for supervision of commercial banks. In 1995, RBI had set up a working group under the chairmanship of Shri S. Padmanabhan to review the banking supervision system. The committee made recommendations and proposed a rating system for domestic and foreign banks based on the international CAMELS model combining financial management, systems and control elements in July 1998. It recommended that the banks should be rated on a five point scale (A to E) based on the lines of international CAMELS rating model. India joined in Basel accord in April 1992 and has committed to implement the revised norms of Basal-II in March 2008. By 2009 end foreign banks will get a free hand to grow and acquire other banks in India on an equal footing with banks incorporated in India.

3. Review of literature on Bankometer framework

Analysing the bankruptcy using financial ratios is the prime methodology initiated by Altman (1968) by presenting higher percentage of success. In the initial phase, Z-score model was developed for manufacturing sector with predicting bankruptcy accuracy rate around 80 percentage. later on, Z-score model arose with addition development for assessing bankruptcy of banking sector and show fabulous accuracy of 70 percentage forecast. Later on, Altman Z-score model employed by number of researcher to measure bankruptcy in various nations and model appeared with higher precision. In the year 2002, IMF developed a model called Bankometer S-score which is also based on financial ratios particularly CAMEL framework for banking sector. After the financial crisis of 2009, it is was observed that a number of industry turn into bankruptcy and this attracted the researchers from diverse area to conduct studies in different countries using Z-score and Bankometer model.

Arulvel and balaputhiran (2013) assessed financial performance of private and state owned banks with the application of different statistical techniques e.g. DEA, CAMELS and Bankometer model. They found that state owned banks are performing well than other commercial banks as per Bankometer parameters.

Anita,Ubud & syafie (2013) conducted study to assess the financial performance of P.T Bank Papua using the CAEL, Z-score and Bankometer. The results were found consistent between CAEL and Bankometer regarding financial position but according to Z-score by putting Papua banking industry in to the ‘gray zone’. Research suggested that Z-score model is not fit for the evaluation of banking sector having various limitations. Though, use of Z-score model was recommended as early indication of bankruptcy of financial institutions.

Amir Hossain at.el. (2010) conducted a research on financial performance using Bankometer Z-score model. Study found that banks were under stress previously also categorized as insolvent using Bankometer model even as sounds banks found solvent in the new method.

Besides these, an attempt was also made by Pal and Chauhan (2009) to analyse the performance of commercial banks in Indian using CAMEL model. The ratios of CAMEL model were further converted into composite factor score applying the principal component analysis and ranked. Many studies exhibited the unsuitability of Altman Z-score in assessing the financial distress. A study conducted by Erari et al., (2013) applied AltmanZ score model, CAEL model and bankometer model altogether within the Bank of Papua in Indonesia. The results showed that the results of Altman Z score model in many occasions were contradicted with the results of CAEL model. Altman Z score model was initially formed from an empirical study of manufacturing companies which is very much different from banking institutions (Endri, 2009).

3.1 Objective of the Study

The study covers the following objectives:

i. To assess the financial strength of Indian scheduled commercial banks.
ii. To compare the financial strength between the ownership of Banks.

4. Research Methodology

4.1 Data and sampling

This study is based on secondary data published by Reserve Bank of India and PROWESS database of CMIE (centre for monitoring Indian economy) for the period 2009-2018 for 62 sampled banks, which comprise public sector banks, foreign sector banks, old private banks, new private banks. The sampled bank includes those banks which remained in existence during the period 2009-2018.

4.2 Methods of analysis

International Monetary Fund (IMF) has developed a model with norms to identify the financial soundness of the firms. The ability to predict which banks are vulnerable to financial distresses is critically important for central banks, creditors and equity investors (Shar *et al.*, 2010). When a bank goes insolvent, creditors often lose portion of the principal and interest payments, while equity investors can potentially lose all of their investments (Shar *et al.*, 2010).

Therefore, It is important for management to focus more on trying to predict the banks that are vulnerable to financial distress in the near future by using bankometer model (Shar *et al.*, 2010). Ratios used within the bankometer model are ratios taken from CAMEL model and CSLA (*Credit Leona's Securities Asia*) stress test model with slight changes in their limits and percentages (Shar *et al.*, 2010).

S-Score = 1.5(CA)+1.2(EA)+3.5(CAR)+0.6(NPL)+0.3(CI)+0.4(LA)

CA = Capital to Asset Ratio (CA≥04percentage)

EA = Equity to Asset Ratio (EA≥02percentage)

CAR = Capital Adequacy Ratio (40percentage≤CAR≥08percentage)

NPL = Non Performing Loan Ratio (NPL ≤ 15percentage)

CI = Cost to Income Ratio (CI≤40percentage)

LA = Loans to Asset Ratio (LA ≤65percentage)

S = Solvency

Note: If the value of S <50 = Insolvent; If the value is 50<S<70= Grey Area; If the value is S>70= Financial Sound

5. Analysis and Interpretation

This section of the study analyses the indicators of the financial soundness of sampled banks under the Bankometer framework. Results are displayed in the table-1.

Capital to Assets: Capital to Asset Ratio calculates how much assets are financed either by equity or long term debt, the greater the ratio means that the bank is much more secure as the assets are financed by long term funds. As per the Bankometer criteria capital to assets ratio of the bank should be greater and equal to 4 percent. It is found that over the study period of time this ratio is above the criteria which indicates our banks are good capitalized. Further if we check the progress of the capitalization, in year 2009 this ratio was 8.09 percentages which decreased up to 5.96 percent in year 2018. Which indicates that Indian banks are successfully meet its capital requirements.

CAR: CAR should remain above the prescribed limit as per Basel III [Minimum Common Equity Tier 1 Ratio plus Capital Conservation Buffer of 8percentage, Minimum Total Capital Ratio (Minimum Tier 1 Capital Ratio + Tier 2 Capital) of 9percentage and Minimum Total Capital Ratio plus Capital Conservation Buffer of 11.50percentage] in which it is above all the minimum limit prescribed by the Reserve Bank of India which is considered to be highly safe in terms of capital. It is found CAR of all banks in India is 19.71 during the study period of time. Which indicate that all banks in India are much adequate in capital obligations? In this CAR ratio, the foreign sector banks scored 30.39 percent which contribute a significant role to boost up the CAR in Indian banking sector.

Equity to Total Assets: Equity to Asset Ratio that measures the amount of assets that are contributed by owners' investments by comparing the total equity in the bank to the total assets. The higher the ratio, the more secure the financial position of the bank and the major part of the assets are financed by equity capital and is less dependent on external funding. Public sector banks are showing relatively very less ratio.

NPL: This ratio shows that how much the loan is classified as non-performing advances (delay in recovering interest for more than 90 days). The higher the ratio indicates the higher non-performing advances distributed by a bank. The ratio of Non-performing Assets to total advances for all banking sector was 2.15 percent from 2009 to 2018. When compared the ratio against ownership it was observed (3.76 percent) highest for the public sector banks this indicates the risk involved in the Non-performing loans and new private sector banks specify 1.04 percent NPL ratio which indicates they are most efficient in managing their advances.

Cost to Income Ratio: This ratio compares the operating expenses and operating income. The lower the proportion, higher the profits of bank. The results of the ratios of the banks reflect that the proportion of operating cost was 23.10 percent in which new private and foreign sector banks contribute the highest value 23.41 and 29.70 respectively.

Loan to Assets Ratio: The ratio indicates the proportion of banks assets that are being financed with debt, rather than equity. The ratio is used to establish the financial risk of a bank. The higher the ratio more the loans that contribute positively to the banks revenue but also have negative impact on banks liquidity. From the analysis it can be concluded that the proportion of loans was 53.47 percent against the total assets under study period of time for the all banks in India in which public sector banks reflects highest proportion 61.03 percent of loan in the total assets and foreign sector banks offer 41.77 percent of loan against their assets.

S-Score: As per the result illustrated in the table-2, it is found that S score of Indian banks are around 125 over the study period of time which indicates a very healthy state of banks in India. Further, if we compare the score across the ownership, foreign sector banks are highest followed by new private sector banks and Indian public sector banks are ranked lowest in the Indian banking sector.

6. Conclusion: On the basis of present and past studies it can be concluded that Bankometer model calculations replaces the other related models in assessing the financial performance of the banks. The results illustrated that new private and foreign sector banks in India are exposed the best performer and financially healthy status. After the commencement of new private and foreign banks in India, the banking sector becomes more competitive against the public sector banks. Public sector banks have high non-performing assets as these banks are directed by the government to mobilise the social obligations. In case of operating expenses the ratio was highest for the new private and foreign sector banks which were reflected by their expansion in their operational activities during the study. In this way, the results show that the banks under study considered as strong capital base, able to manage debt well, profitable and good in asset quality.

References:

Altman, E. (1993). Corporate Financial Distress and Bankruptcy. 2nd edition, New York: John Wiley & Sons.

Anita Erari , Ubud Salim, Syafie Idrus. M. & Djumahir. (2013). Financial Performance Analysis of PT. Bank Papua: Application of Cael, Z-Score and Bankometer. IOSR Journal of Business and Management. 7(5), 08-16.

Arulvel, K. K., & Balaputhiran, S. (2013). Financial position of banking sector: A comparative study between state and private sector banks in Sri Lanka. ACADEMICIA: An International Multidisciplinary Research Journal. 3(2), 212-221.

Endri. (2009). Prediksi Kebangkrutan Bank untuk Menghadapi dan Mengelola Perubahan Lingkungan Bisnis : Analisis Model Altman Z-Score. Perbanas Quaterly Review. 2(1).

Erari, A. D. (2013). Financial Performance Analysis of PT. Bank Papua : Application of CAEL, Z-Score and Bankometer. IOSR Journal of Business and Management. 7(5),08-16.

Fry M. J. (1995). Money, Interest and Banking in Economic Development. John Hopkins University Press. Second Edition.

Levine R. (1997). Financial Development and Economic Growth: Views and Agenda. Journal of Economic Literature. 35(2), 688–726.

Mabwe Kumbirai, and Robert Webb. (2010). A financial Ratio Analysis of Commercial Bank Performance in South Africa. African Review of Economics and Finance. 2(1).

McKinnon R. I. (1973). Money and Capital in Economic Development. Brookings Institution Washington.

Nimalathasan B. (2008). A Comparative Study of Financial Performance of Banking Sector in Bangladesh-An Application of CAMELS Rating System. Economic and Administrative. 2, 141-152.

Robinson, J. (1952). The generalization of the general theory. The Rate of Interest, and Other Essays. Macmillan, London.

Schumpeter J. A. (1911). The Theory of Economic Development. Oxford University Press. Oxford (Reprinted 1969).

Seelanatha, L. 2010. Market Structure, Efficiency and Performance of Banking Industry in Sri Lanka. Banks and Bank Systems. 5(1).

Shar, Amir Hussain, Muneer Ali Shah and Hajan Jamali, (2010). Performance Evaluation of Banking Sector in Pakistan: An Application of Bankometer. International Journal of Business and Management. 5(9), 81-86.

Shaw E. S. (1973). Financial Deepening in Economic Development. Oxford University Press. New York.

Stiglitz J.E.(1994). The Role of the State in Financial Markets. In Proceedings of the Worm Bank Annual Bank Conference on Development Economics 1993 Edited by Bruno M. and Pleskovic B. World Bank Washington D. C. 19-52.

Tarawneh, M. (2006). A Comparison of Financial Performance in the Banking Sector: Some Evidence from Omani Commercial Banks. International Research Journal of Finance and Economics. 3, 103-112.

Ved Pal and Parveen Chauhan (2009). Performance Appraisal of Commercial Banks through CAMEL framework. NICE Journal of Business. 4 (2), 49-66.

Yeh, Q., J. (1996). The Application of Data Envelopment Analysis in Conjunction with Financial Ratios for Bank Performance Evaluation. Journal of the Operational Research Society. 47, 980-988.

Table 1: Case Summaries

Group Code	Year	Tools	CA	CAR	EA	NPL	CI	LA
Public Sector Banks	2009	Mean	.64	13.19	5.41	.77	17.27	60.28
		Std. Deviation	.64	.80	1.05	.47	2.59	2.54
	2018	Mean	.68	11.21	5.72	9.65	20.62	56.51
		Std. Deviation	.67	1.52	.90	3.78	2.99	5.69
	Total	Mean	.48	12.16	5.58	3.76	17.47	61.03
		Std. Deviation	.47	1.30	.84	3.62	3.21	4.29
Old Pvt. Banks	2009	Mean	.96	16.78	8.49	.89	18.05	55.65
		Std. Deviation	1.75	8.83	4.13	.68	4.15	5.65
	2018	Mean	.41	13.30	8.03	2.87	22.95	62.87
		Std. Deviation	.26	2.24	1.80	1.68	3.93	7.65
	Total	Mean	.62	14.55	8.05	1.36	19.84	59.79
		Std. Deviation	1.02	5.62	3.33	1.32	4.63	6.57
New Pvt. Banks	2009	Mean	1.07	15.34	9.25	1.55	24.52	55.86
		Std. Deviation	.96	2.52	3.06	1.31	7.33	1.64
	2018	Mean	.30	16.85	10.51	1.78	24.52	63.66
		Std. Deviation	.34	1.55	2.00	1.99	2.86	2.91
	Total	Mean	.63	16.13	10.08	1.04	23.41	59.30
		Std. Deviation	.74	1.92	2.17	1.32	4.93	4.09
Foreign Banks	2009	Mean	20.43	30.33	29.42	.98	26.66	33.95
		Std. Deviation	21.53	20.74	23.60	1.71	11.55	18.71
	2018	Mean	15.15	28.78	25.52	.39	31.83	47.31
		Std. Deviation	17.13	23.19	16.45	.56	17.81	17.51

	Total	Mean	17.90	30.39	27.79	1.37	29.70	41.77
		Std. Deviation	19.03	21.88	19.42	3.83	17.53	17.99
All Banks	2009	Mean	8.09	20.27	15.30	.95	21.71	49.19
		Std. Deviation	16.10	14.97	18.07	1.18	8.82	16.63
	2018	Mean	5.96	18.73	14.01	4.12	25.63	55.03
		Std. Deviation	12.52	16.10	13.42	4.73	12.05	13.21
	Total	Mean	6.99	19.71	14.76	2.15	23.10	53.47
		Std. Deviation	14.31	15.77	15.63	3.42	12.35	14.72

Table 2: Ranking of ownership using S-Score

Average of S-Score												
Groups	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**Grand Total**	**Ranking**
Public Sector Banks	83.4	83.1	85.9	84.7	81.6	77.6	78.5	80.5	82.0	81.7	81.9	4
Old Pvt. Banks	98.6	98.0	107.3	91.9	89.2	87.0	87.8	85.6	86.2	90.6	92.2	3
New Pvt. Banks	97.0	105.2	100.6	99.1	100.3	98.9	99.3	100.7	101.7	105.9	100.9	2
Foreign Banks	189.6	186.3	194.7	209.7	191.5	200.6	190.3	179.1	181.9	182.8	190.7	1
Grand Total	127.0	126.5	131.7	134.0	125.8	127.3	124.0	120.3	122.0	123.5	126.2	