

The impact of Profitability of Indian Scheduled Commercial Banks – A Factor analysis approach

**Dr. Kavitha Nachimuthu, Associate Professor, Department of Management, RD National Arts and Science (Co-education) College, Erode. Tamilnadu. India.*

***Dr.D.Muthukrishnaveni, Associate Professor, Department of Management Studies, Velalar College of Engineering and Technology, Erode. Tamilnadu. India.*

Purpose

Banking sector is playing an important role for the sustainable economic progress. Profitability in Indian scheduled commercial banks need to be assessed for the improvement of banking system. The purpose of the study is to analyse the impact of the profitability and evaluate the role in achieving high profitability of bank specific factors on the Indian scheduled commercial banks.

Design/methodology/approach

In this paper, financial ratios used based on factor analysis. The data were analysed to identify profitability of Indian scheduled commercial banks for the period of 2006-07 to 2017-18. The study shows that no individual factor can be solely responsible for the variations in the profitability in the banks; it is a combination of different factors which are associated with profitability. Factor analyses were selected to identify the factors that get highest, moderate and lowest priority in banking performance. IBM SPSS 23 Version and E-Views 10 software have been used to identify the variables pertaining to the profitability of the banking sector.

Findings

The various analyses have been used to study the profitability and various tests have been applied to know the factors and bring out the variables. All the determinant variables included in the model have statistically significant impacts on Indian scheduled commercial banks' profitability. However, the effects are not uniform across profitability measures in the banking sector. Nationalized Banks were associated with profitability and they were positioned at the top followed by SBI.

Practical implications

This study has significant policy implications on the performance banking sector which depends on its efficiency, profitability and competitiveness in the Indian scheduled commercial bank. In view of these findings, some recommendations may be useful for bank regulatory authorities to strengthen the profitability and sustainable growth and development in the banking sector.

Originality/value

The results provide interesting visions into the characteristics and practices of profitable scheduled commercial banks in India. Few econometric researches have empirically discovered the determining factor of bank profitability in India though comparable studies have been conducted in several developed countries like India. Thus, this research attempts to find significant gap in the existing literature enlightening the considerate of bank profitability in Indian scheduled commercial banks.

Type: Research Paper

Keywords: Banking sector, commercial banks, determinants, factor analysis, performance and profitability.

Introduction

The banking system had such a low level of profitability, that the banking system might itself become seriously sick on account of the transfusion of money to treat the financial anemia of the economy. It was clear that, the viability of the banking system was under a grave threat in increasing competitive business environment, and if the system was to continue to serve its social objectives, banks should be allowed to become commercially viable units. Commercial banks enlarged and widened the network of services provided by them to their customers. The financial services, accounting services and insurance services are covered under the umbrella of banking services provided. Banks as commercial organizations survive by earning a higher return on users' fund than what they pay for their sources of funds. Hence the banks must maintain or manage the funds by ensuring that the risks are minimized, such that a reasonable return is earned. The trend is increasing towards effective and active asset liability management to maximize profits by obtaining access to new and expanding sources of liabilities for advantageous investment, either in loans and advances and / or securities including money market assets.

Literature Review

Shaheret al (2011), this paper mainly concentrates on evaluating the major factors that affect the commercial banks' performance in the Middle East region based on factor analysis technique. In our study, we choose 23 variables and analyze them according to factor analysis techniques (PCA), in order to extract them in six different factors based on their importance to banks' performance. The results revealed that the first factor (banks' characteristics) is considered the most important factor to banks' performance. On the contrary, the sixth factor (other factors) is considered the least important factor that influences commercial banks' performance in the Middle East region. Our results suggest that commercial banks in Middle East region should concentrate on the six factors, mainly variables in the first factor, in order to improve their performance and compete efficiently with global commercial banks.

Zawadi Ally (2014), this study examines the effects of bank specific and macroeconomic factors on banks' profitability in Tanzania. The fixed effects regression model was used on a panel data attain from 23 banks from 2009 to 2013. The empirical results express that bank-specific factors that are affected by bank-level management expressively affect banks' profitability in Tanzania. Though, macroeconomic factors do not seem to significantly affect banks' profitability. It can be maintained that the profitability and performance of banks in Tanzania is primarily influenced by management decisions, while macroeconomic factors have insignificant contribution to the banking sector. Therefore, Bank management must efficiently attain the performance and factors related to their management decisions in order to achieve profit-making in long run.

Michael Adusei (2015), in his paper on Bank profitability: Insights from the rural banking industry in Ghana and analyses the profitability of 112 rural banks special unit banks formed to encouraged rural financial intermediation in Ghana. The results usually provide that bank size, funding risk, diversification, liquidity risk, and bank stability are significant predictors of rural bank profitability. However, an improvement in the funding risk of a rural bank during the period signifies a profitability in the future, an improvement in the size, diversification, liquidity risk, and stability of a rural bank indicates an improvement in the future profitability of the bank.

Vesna Bucevska et al (2017), this paper provides the determinants of bank profitability in overall and of the impact of market structure and efficiency on bank performance in specific, persist a researched topic in bank performance analysis. The aim of this article is to investigate the relevance of the structure-conduct-performance (SCP) hypothesis against the efficiency hypothesis in explaining bank performance by analysing 127 commercial banks from six Balkan countries (Slovenia, Croatia, Serbia, Bosnia and Herzegovina, Montenegro, and Macedonia during the period 2005–2009. It uses a GMM estimator in testing the determinants of bank profitability in order to justification for the dynamic nature of bank profits. The estimation results recommend that profits continue to some extent, representing that the deviation from a perfectly competitive market structure is marginal. In addition, the findings recommend that efficiency is significantly and positively associated with profitability, whereas the industry concentration variable is insignificant in explaining profitability, indicating support in favour of the efficiency hypothesis. To end, the results recommend that neither inflation nor economic growth has an impact on the profitability of banking sector.

Trofimov et al (2018), this study aims to examine the relationship between non-performing loans (NPLs) and commercial banks' performance in Malaysia, together with other factors. It reflects the effect of NPLs, cost efficiency and bank size on commercial banks' profitability by using panel data regression (Pooled OLS model), covering the period of 2010-2015. The findings of the study provide that NPLs and cost efficiency have a significant negative relationship with commercial banks' performances in Malaysia. On the other hand, bank size is created to have a significant positive relation with commercial banks' performances in Malaysia. Several policy and strategic implications are drawn: the remaining need to manage credit risk, reduction of non-core lending activities, systems transparency improvement, cost control, and more lenient competition and anti-trust policies.

Barzan Omar Ali (2018), The aim of this study is to examine the factors influencing interest rates and its relationship with private banks profitability in Erbil. The research was conducted at private banks in Erbil. The researcher tried to find out the significance factor that affects interest rates and its relationship with Profitability of banking sector. Though, the researcher collected data from employees at different level of management at private banks in Erbil. The researcher circulated 300 questionnaires, but only 238 questionnaires were received from employees and analysed for the study purpose. The researcher used a quantitative research method to find out the significance factor that affects interest rates and its relationship with banks Profitability. The findings of multiple regression analysis exposed that the highest value was for

economic growth, the B value =.812, this indicates that economic growth significantly and positively effects interest rates as a result increase bank's Profitability.

Objectives of the study

- To analyze the impact of the profitability of Indian Scheduled commercial banks
- To evaluate the role of bank specific factors on the Scheduled commercial banks in India

Methodology

The research is quantitative in nature for which secondary data is used. Data collected from RBI Statistical table relating to banks, Database on Indian Banking published by Indian Banking Association, financial statements of the banks in India, magazines and newspapers for the period of 10 years from 2007-08 to 2017-18 were selected and grouped into SBI and its Associate banks, Nationalized Banks and Private Sector Banks. Factor Analysis aims at studying the effect of two or more predictor variables on certain evaluation criterion with the help of IBM SPSS 23 version and E-Views 10 software used for the analysis. One among it, is the Factor Analysis which is intended to group the original input variables into factors which underlie the input variables. Each factor will account for one or more input variables. By performing factor analysis, the total number of factors in the study can be reduced by dropping the insignificant factors based on the criterion.

Factor Analysis – SBI Group

Table 1 presents the factor loadings of SBI group of the variables considered during the period of study. It can be understood from the factor loading table that in the case of SBI bank group, out of the total variable, the most contributing factors are three in total. Three components are extracted because, these three have Eigen values greater than 1 and the history of the derived components is outlined. Each factor comprises a set of ratios considered for the study. Factor 1 is composed of the following significant ratios such as “Approved Securities to Assets”, “Cash Deposit Ratio”, “Other Assets to Working Funds”, “Liquid Assets to Working Funds”, “Fixed Assets to Working Funds”, “Net NPA to Net Advances”, “Interest Earned to Working Funds”, “Non-Interest Expenses to Working Funds”, “Provisions and Contingencies to Total Assets” and “Government Securities to Assets”. The table 1 also shows the communality values. Communality can be defined as the proportion of variance in any one of the original variables, which is captured by the extracted factors.

Table: 1 FACTOR ANALYSIS – SBI GROUP

Variables	Components			Communalities
	1	2	3	
Approved Securities to Assets	0.958	0.170	0.117	0.960
Cash Deposit Ratio	0.949	0.230	-0.13	0.971
Other Assets to Working Funds	0.941	-0.099	0.022	0.895
Liquid Assets to Working Funds	0.935	0.262	-0.144	0.964
Fixed Assets to Working Funds	0.855	0.251	-0.344	0.913
Net NPA to Net Advances	0.822	0.564	-0.038	0.995
Interest Earned to Working Funds	0.773	0.585	0.079	0.945

Non-Interest Expenses to Working Funds	0.761	-0.142	-0.463	0.813
Provisions and Contingencies to Total Assets	-0.700	-0.183	0.568	0.846
Government Securities to Assets	-0.579	0.556	0.564	0.962
Debt Equity Ratio	-0.022	0.945	-0.313	0.992
Borrowings to Total Assets	-0.150	-0.891	-0.406	0.982
Credit Deposit Ratio	-0.424	-0.863	0.079	0.930
Priority Sector Advances to Total Advances	0.392	0.768	0.376	0.885
Interest Expended to Working Funds	0.682	0.697	0.078	0.945
Net Profit to Working Funds	-0.059	-0.291	0.920	0.934
Non-Interest Income to Working Funds	0.009	0.212	0.855	0.776
Capital Adequacy Ratio	-0.246	0.424	0.590	0.588
Eigen Values	9.494	4.701	2.110	
Variance (%)	52.743	78.860	90.582	

Source: Data calculated from Statistical Tables Relating to Banks in India, R.B.I., Mumbai Issues of relevant years

Factor II has “Debt Equity Ratio”, “Borrowings to Total Assets”, “Credit Deposit Ratio”, “Priority Sector Advances to Total Advances” and “Interest Expended to Working Funds”. Factor III consists of “Net Profit to Working Fund”, “Non-Interest Income to Working Funds” and “Capital Adequacy Ratio”. Factor I, being the dominant variable, explains the variations in eighteen variables considered for the study in terms of profitability. These three factors taken together could explain 90.58 % of the variations in the profitability of banks. This shows that, no individual factor can be solely responsible for the variations in the profitability in the banks; it is a combination of different factors which are associated with the profitability. The importance of a given factor for a given variable can exactly be expressed in terms of the variations in the variable that can be accounted for the factor which accounts 90.58 %. It can be seen that the first factor accounts for only 52.74 % of variation in the variable set. Second factor accounts for 26.12 % and third factor with 11.72. All the three factors taken together could explain as much as 90.58 % of the variations in the variables associated with profitability. Remaining factors, which are not linked with profitability, constitute about 9.42 %.

Figure.1 .ML ARCH - Normal distribution of SBI Group

Variable	Coefficient	Std. Error	z-Statistic	Prob.
	0.870685	0.188311	4.623648	0.0000
Variance Equation				
C	0.334998	1.118836	0.299417	0.7646
RESID(-1)^2	-0.092812	0.088433	-1.049522	0.2939
GARCH(-1)	0.583394	1.662146	0.350988	0.7256
R-squared	0.997441	Mean dependent var	4.226476	
Adjusted R-squared	0.997441	S.D. dependent var	17.13904	
S.E. of regression	0.867069	Akaike info criterion	2.457642	
Sum squared resid	15.03618	Schwarz criterion	2.656598	
Log likelihood	-21.80524	Hannan-Quinn criter.	2.500820	
Durbin-Watson stat	1.960101			

Source: Author

The figure 1 shows that the changes caused by the instability of previous study periods such as Garch0.583394, R-squared 0.997441, Mean dependent var 4.226476, S.D. dependent var 17.13904, S.E. of regression 0.867069, Akaike info criterion 2.457642 and Durbin-Watson statistic 1.950101. The study provides standardized residuals correlogram, to ensure that, there is higher correlation of the first order. Analysing of SBI Group the correlogram of standardized residuals square root it resulted that the GARCH (1.1) equation is not the most appropriate, standardized residuals being strongly autocorrelated. Correlogram of SBI Group given in the figure 2.

Figure. 2. Correlogram of SBI Group

Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob	
		1	0.055	0.055	0.0727	0.787
		2	-0.003	-0.006	0.0729	0.964
		3	-0.008	-0.008	0.0747	0.995
		4	-0.017	-0.016	0.0825	0.999
		5	-0.007	-0.005	0.0839	1.000
		6	-0.010	-0.009	0.0869	1.000
		7	-0.033	-0.033	0.1252	1.000
		8	-0.036	-0.033	0.1725	1.000
		9	-0.015	-0.012	0.1817	1.000
		10	-0.023	-0.023	0.2054	1.000
		11	-0.035	-0.035	0.2656	1.000
		12	-0.037	-0.036	0.3400	1.000

Source: Author

Factor Analysis – Nationalized Banks Group

With regard to Nationalized Banks, this is shown in table 2, those factors which contribute towards profitability of the nationalized banks. It can be understood that the significant variable, which has reduced the total number of factors into three. Factor I consists of “Interest Earned to Working Funds”, “Interest Expended to Working Funds”, “Net NPA to Net Advances”, “Other Assets to Working Funds”, “Non-Interest Expenses to Working Funds”, “Credit Deposit Ratio”, “Fixed Assets to Working Funds”, “Approved Securities to Assets”, “Approved Securities to Assets”, “Priority Sector Advances to Total Advances”, “Borrowings to Total Assets”, “Capital Adequacy Ratio” and “Liquid Assets to Working Funds”.

Table: 2 FACTOR ANALYSIS – NATIONALIZED BANKS GROUP

Variables	Components			Communalities
	1	2	3	
Interest Earned to Working Funds	0.992	0.050	-0.017	0.986
Interest Expended to Working Funds	0.992	-0.037	-0.008	0.985
Net NPA to Net Advances	0.984	-0.038	0.156	0.995
Other Assets to Working Funds	0.984	-0.075	0.149	0.996
Non-Interest Expenses to Working Funds	0.968	-0.021	0.045	0.940
Credit Deposit Ratio	-0.904	-0.381	-0.104	0.974
Fixed Assets to Working Funds	0.892	-0.142	0.425	0.998
Approved Securities to Assets	0.880	-0.083	0.466	0.998
Priority Sector Advances to Total Advances	0.835	-0.467	0.092	0.924
Borrowings to Total Assets	0.779	-0.607	-0.002	0.976
Capital Adequacy Ratio	0.756	0.440	0.087	0.772
Liquid Assets to Working Funds	0.675	0.386	0.612	0.980
Non-Interest Income to Working Funds	0.336	0.914	0.022	0.949
Government Securities to Assets	0.083	0.897	0.381	0.957
Provisions and Contingencies to Total Assets	0.301	0.869	0.353	0.971
Net Profit to Working Fund	0.501	0.831	0.044	0.943
Debt Equity Ratio	0.038	0.115	0.976	0.968
Cash Deposit Ratio	0.618	0.410	0.654	0.977
Eigen Values	11.237	4.539	1.512	
Variance (%)	62.426	25.219	8.398	

Source: Data calculated from Statistical Tables Relating to Banks in India, R.B.I., Mumbai Issues of relevant years

In the case of second factor the components comprise of 4 variables such as “Non-Interest Income to Working Funds”, “Government Securities to Assets”, and “Net Profit to Working Fund”. Factor 3 has the following variables such as “Debt Equity Ratio” and “Cash Deposit Ratio”.

Factor 1, being the dominant variable, which explains the variations in eighteen variables considered for the study in terms of profitability. These three factors taken together could explain 96.04 % of the variations in the profitability of banks. This shows that, no individual factor can be solely responsible for the variations in the profitability in the banks; it is a combination of different factors which are associated with the profitability. The importance of a given factor for a given variable can be expressed exactly in terms of the

variations, in the variable that can be accounted for, by the factor which accounts 96.04 %. Since it can be seen that, the first factor accounts for only 62.43 % of variation in the variable set, second factor accounts for 25.22 % and third factor with 8.4. All the three factors taken together could explain as much as 96.04 % of the variations in the variables associated with profitability. Remaining factors which do not constitute are about 3.96 %.

Figure.3 .ML ARCH - Normal distribution of Nationalized Banks Group

Variable	Coefficient	Std. Error	z-Statistic	Prob.
	2.994232	0.003757	797.0600	0.0000
Variance Equation				
C	0.265063	0.155010	1.709980	0.0873
RESID(-1)^2	-0.236595	0.082755	-2.858976	0.0043
GARCH(-1)	0.989511	0.213547	4.633687	0.0000
R-squared	0.887798	Mean dependent var	1.658048	
Adjusted R-squared	0.887798	S.D. dependent var	5.510212	
S.E. of regression	1.845731	Akaike info criterion	2.851177	
Sum squared resid	68.13446	Schwarz criterion	3.050134	
Log likelihood	-25.93736	Hannan-Quinn criter.	2.894356	
Durbin-Watson stat	1.170743			

Source: Author

The figure 3 shows that the changes caused by the instability of previous study periods such as Garch 0.989511, R-squared 0.887798, Mean dependent var 1.658048, S.D. dependent var 5.510212, S.E. of regression 1.845731, Akaike info criterion 2.851177 and Durbin-Watson statistic 1.170743. The study provides standardized residuals correlogram, to ensure that, there is higher correlation of the first order. Analysing Nationalized Banks Group, the correlogram of standardized residuals square root it resulted that the GARCH (1.1) equation is not the most appropriate, standardized residuals being strongly auto correlated. Correlogram of Nationalised Banks Group given in the figure 4.

Figure.4. Correlogram of Nationalized Banks Group

Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob
		1 0.172	0.172	0.7111	0.399
		2 0.005	-0.026	0.7116	0.701
		3 -0.008	-0.004	0.7131	0.870
		4 0.016	0.019	0.7206	0.949
		5 0.014	0.008	0.7270	0.981
		6 0.011	0.008	0.7311	0.994
		7 0.006	0.003	0.7324	0.998
		8 -0.018	-0.020	0.7441	0.999
		9 -0.028	-0.022	0.7760	1.000
		10 -0.075	-0.069	1.0237	1.000
		11 -0.070	-0.049	1.2631	1.000
		12 -0.060	-0.043	1.4543	1.000

Source: Author

Factor Analysis – Private Banks Group

With regard to Private sector banks, table 3 shows the factors which contribute towards the profitability of the private sector banks. It can be understood that the significant variable has reduced the total number of factors into three. Factor I consists of “Liquid Assets to Working Funds”, “Government Securities to Assets”, “Interest Expended to Working Funds”, “Cash Deposit Ratio”, “Interest Earned to Working Funds”, “Approved Securities to Assets”, “Net NPA to Net Advances”, “Credit Deposit Ratio”, “Debt Equity Ratio”, “Non-Interest Expenses to Working Funds”, “Priority Sector Advances to Total Advances”, “Fixed Assets to Working Funds” and “Provisions and Contingencies to Total Assets”.

Table: 3 FACTOR ANALYSIS – PRIVATE BANKS GROUP

Variables	Components		Communalities	
	1	2	3	
Liquid Assets to Working Funds	0.984	-0.076	0.064	0.978
Government Securities to Assets	0.963	0.200	-0.087	0.975
Interest Expended to Working Funds	0.959	-0.031	0.058	0.925
Cash Deposit Ratio	0.958	0.229	0.036	0.971
Interest Earned to Working Funds	0.946	-0.154	0.117	0.932
Approved Securities to Assets	0.922	-0.262	-0.021	0.919
Net NPA to Net Advances	0.881	0.118	-0.353	0.915
Credit Deposit Ratio	-0.853	-0.491	0.067	0.974
Debt Equity Ratio	0.840	0.270	-0.139	0.798
Non-Interest Expenses to Working Funds	-0.832	-0.403	0.246	0.915
Priority Sector Advances to Total Advances	0.824	-0.192	-0.177	0.746
Fixed Assets to Working Funds	0.806	0.499	-0.030	0.900
Provisions and Contingencies to Total Assets	-0.510	-0.348	0.507	0.638
Borrowings to Total Assets	-0.314	0.863	-0.224	0.894

Other Assets to Working Funds	0.068	0.753	0.327	0.679
Capital Adequacy Ratio	0.462	0.632	0.471	0.835
Net Profit to Working Fund	0.170	0.205	0.810	0.726
Non-Interest Income to Working Funds	-0.382	-0.010	0.795	0.778
Eigen Values	10.828	2.670	1.999	
Variance (%)	60.157	14.836	11.105	

Source: Data calculated from Statistical Tables Relating to Banks in India, R.B.I., Mumbai Issues of relevant years

In the case of second factor the components comprise of 3 variables such as “Borrowings to Total Assets”, “Other Assets to Working Funds” and “Capital Adequacy Ratio”. Factor III has the following variables such as “Net Profit to Working Fund” and “Non-Interest Income to Working Funds”.

Factor 1, being the dominant variable, explains the variations in eighteen variables considered for the study in terms of profitability. These three factors taken together could explain 86.09 % of the variations in the profitability of banks. This shows that no individual factor can be solely responsible for the variations in the profitability in the banks; it is a combination of different factors which are associated with the profitability. The importance of a given factor for a given variable can be expressed exactly in terms of the variations in the variable that can be accounted for, by the factor which accounts 86.09 %. Since, the first factor accounts for only 60.16 % of variation in the variable set. Second factor accounts for 14.84 % and third factor with 11.11. All the three factors taken together could explain as much as 86.09 % of the variations in the variables associated with profitability. Remaining factors which do not constitute are about 13.961 %.

Figure.5. ML ARCH - Normal distribution of Private Banks Group

Variable	Coefficient	Std. Error	z-Statistic	Prob.
	0.011408	0.157200	1.309298	0.0000
Variance Equation				
C	0.001420	0.035640	-0.052565	0.9581
RESID(-1)^2	-0.383176	2.170826	-0.385350	0.7000
GARCH(-1)	1.377791	1.433693	1.196878	0.2314
R-squared	0.080797	Mean dependent var		0.100111
Adjusted R-squared	0.080797	S.D. dependent var		0.395694
S.E. of regression	0.411369	Akaike info criterion		0.589104
Sum squared resid	2.876810	Schwarz criterion		0.786965
Log likelihood	-1.301937	Hannan-Quinn criter.		0.616386
Durbin-Watson stat	1.694217			

Source: Author

The figure 5 shows that the changes caused by the instability of previous study periods such as Garch1.377791, R-squared 0.080797, Mean dependent var 0.100111, S.D. dependent var 0.395694, S.E. of regression 0.411369, Akaike info criterion 0.589104 and Durbin-Watson statistic 1.694217. The study provides standardized residuals correlogram, to ensure that, there is higher correlation of the first order. Analysing

Private Banks, the correlogram of standardized residuals square root, it resulted that the GARCH (1.1) equation is not the most appropriate, standardized residuals being strongly autocorrelated. Correlogram of Private Banks Group given in the figure 6.

Figure.6 Correlogram of Private Banks Group

Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob	
		1	0.161	0.161	0.6285	0.428
		2	-0.010	-0.037	0.6311	0.729
		3	0.002	0.010	0.6312	0.889
		4	0.026	0.024	0.6501	0.957
		5	0.036	0.029	0.6901	0.984
		6	0.020	0.011	0.7029	0.994
		7	-0.049	-0.054	0.7848	0.998
		8	-0.011	0.006	0.7893	0.999
		9	-0.060	-0.065	0.9350	1.000
		10	-0.075	-0.058	1.1803	1.000
		11	-0.045	-0.026	1.2776	1.000
		12	-0.086	-0.078	1.6786	1.000

Source: Author

Conclusion

Banking sector is the most prominent sector in India. The factor analysis is adopted to identify how many variables are associated with the first factor. The research has concluded that, banking sector must take greatest care on the variables which pertain to profitability. The various analyses have been used to study the profitability and various tests have been applied to know the factors and bring out the variables. Nationalized Banks associated with profitability was positioned at the top followed by SBI Banks. All the banking groups must take necessary steps to improve the overall performance of the banking sector.

Recommendations of the study

The results found in this study have following recommendations for the banking sector. Reluctance of banks in lending matters. The system of narrow banking should be avoided. Narrow banking means, hesitating on the part of banks to be more open on lending money on business aspects. Reduction in Interest rate, extension of Instalments, banks itself joining the board of company, bank auditing directly the transactions, which can directly eliminate fraudulent dealings. Thus, banks become stakeholder of company. Banks can adapt to an easier way of operations like treasury management instead of conventional banking approach. The treasury operation here could be exchange of money where as banks should concentrate more on the productivity factor which helps the economy flourish.

Policy Implications and further future research

The research results recommend policy implications. One policy implication is that, funding, liquidity, and stability risks management should be given much attention in the day-to-day management of commercial banks. It is known that resulting the demise of some Scheduled Commercial Banks and the related negative consequences for the entire financial system, the Commercial banks has essential reforms in the rural banking industry which is governed by Reserve bank of India, including the introduction of a capital requirement as well as new directions on the arrangement of the commercial banks. However, more reforms are needed to

fine-tune the operations of Scheduled Commercial Banks. It is, thus, suggested that the Indian scheduled commercial banks should make risk management experts as compulsory members of the boards and management teams of Scheduled Commercial Banks. These experts will provide the needed direction for effective and efficient risk management. It helps to support the banking operations and finally confirm the stability in the entire banking business of financial system. This paper has not included the factors pertaining to performance of foreign banks and its analysis of bank profitability. Future research can also be conducted to know the performance of foreign banks based on the profitability of banking sectors in India. It is, hence, suggested that future researchers should explore how external factors in India affect the profitability of foreign banks.

Limitation of the study

Profitability of the banking sector is changing with the period. The study is done for the present period without predicting future advances of banks' profitability. The study is restricted to the functioning of Indian Scheduled Commercial Bank, relating to its impact of profitability. Thus, the important limitations are as follows; the data are composed for the period of 10 years from 2008-09 to 2017-18 till at the end of March for the study purpose. The source for finding profitability of banks is taken from the annual reports, magazines and website of Reserve Bank of India. The findings need to be confirmed by further indication in other foreign banks and then in rest of the world. Researcher should determine how the profitability works across different banking sector.

Abbreviation /Acronyms

- SBI Group – State Bank of India Group
- ARCH- Auto Regressive Conditional heteroskedcity

References

- Adusei, M. (2015). Bank profitability: Insights from the rural banking industry in Ghana. *Cogent Economics & Finance*, 3(1), 1078270.
- Afroza Parvin, M. S. (2010). Satisfaction of Debit Card Users in Bangladesh: A Study on Some Private Commercial Banks. *Journal of Business and Technology (Dhaka)*, 5 (2), 88-103
- Ali, B. O. (2018). Factors affecting interest rate and its relationship with banks profitability. *The International Journal of Accounting and Business Society*, 26(1), 55-77.
- Ally, Z. (2014). Determinants of banks' profitability in a developing economy: Empirical evidence from Tanzania.
- Athanasoglou, P., Brissimis, S., Delis, M (2008). Bank-Specific, Industry-Specific and Macroeconomic determinants of bank profitability. *Journal of International Financial Markets, Institutions and Money*, 18(2), 121-136.
- Barth, J., Caprio, G., Levine, R. (2004). Bank regulation and Supervision: What works best? *Journal of Financial Intermediaries*, 13, 205-248.
- Barros, C., Ferreira, C., and Williams, J. (2007). Analyzing the determinants of performance of best and Worst European banks: A mixed logit approach. *Journal of Banking & Finance* 31, 2189-2203.

- Boateng, K. (2018). Determinants of Bank Profitability: A Comparative Study of Indian and Ghanaian Banks.
- Bucevska, V., & Hadzi Misheva, B. (2017). The Determinants of Profitability in the Banking Industry: Empirical Research on Selected Balkan Countries. *Eastern European Economics*, 55(2), 146-167.
- Chechet, I. L. & Olayiwola A.B. (2014). Capital Structure and Profitability of Nigerian Quoted Firms: The Agency Cost Theory Perspective. *American International Journal of Social Sciences*, 3 no.1, 139-158.
- Gerlach, S., Peng, W. & Shu, C. (2004). Macroeconomic conditions and banking performance in Hong Kong: A panel Data study. *Hong Kong Monetary Authority Memorandum*, April.
- Guru, B. J., Staunton & Balashanmugan. (2002), Determinants of commercial bank profitability in Malaysia. *University Multimedia Working Papers*.
- Hsiao, C. (2003). *Analysis of Panel Data*, Cambridge: Cambridge University Press (Econometric Society monograph No. 34).
- Hsiao, C. (2005). Why Panel Data, *Singapore Economic Review*, Vol. 50(2), pp. 143- 154.
- Hsiao, C. (2006). Panel Data: Advantages and Challenges, IEP Working Paper 06.49, Institute of Economic Policy Research, University of Southern California
- Maiyaki, A. A. (2011). Factors Determining Bank's Selection and Preference in Nigerian Retail Banking. *International Journal of Business and Management*, 6 (1).
- Kanwal, S., & Nadeem, M. (2013). The impact of macroeconomic variables on the profitability of listed commercial banks in Pakistan. *European journal of business and social sciences*, 2(9), 186-201.
- Nsambu K.F. (2014). Factors affecting performance of commercial Banks in Uganda: a case for domestic commercial banks. *Proceedings of 25th international Business Research Conference 13-14 Jan 2014*.
- Oladele, P.O., Sulaimon, A.A. & Akeke, N.I. (2012). Determinants of Bank Performance in Nigeria. *Internal Journal of Business and Management Tomorrow*, 2(2), 1-4.
- Olweny, T., & Shipo, T.M. (2011). Effects of Banking Sectorial Factors on the Profitability of Commercial Banks in Kenya. *Economics and Finance Review*, 1(5) 1-30.
- Rana, M. (2018). Profitability positions of selected commercial banks in Bangladesh. *Journal of Business Studies*, PUST, 86.
- Saira, J., Jamil, A., Khalid, Z & Abdul G. (2011). Determinants of bank profitability in Pakistan: Internal Factor Analysis. *Mediterranean Journal of Social Sciences*, 59- 78.
- Safiek Mokhlis, H. S. (2009). Commercial bank Selection: Comparison Between Single and Multiple bank Users in Malaysia. *International Journal of Economic and Finance*, 1 (2), 263-273.
- Shafer, Kasawneh and Salem (2011), The Major Factors that Affect Banks' Performance in Middle Eastern Countries, *Journal of Money, Investment and Banking* ISSN 1450-288X Issue 20 (2011), © EuroJournals Publishing, Inc. 2011, <http://www.eurojournals.com/JMIB.html>.
- Trofimov, I. D., Ying, Y., & Kho, J. (2018). Determinants of Commercial Banks' Profitability in Malaysia
- World Bank (2013). *World Development Indicators*, New York: Oxford University Press.
- Zouari, A (2010). Efficient Structure versus Market Power: Theories and Empirical Evidence. *International journal of Economics and Finance*. 2(4) 151-166.