



Assessment of Profitability Position of Scheduled Commercial Public and Private Banking Sectors in India

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Abstract

In any state, Banks are supposed to be the most vibrant financial intermediaries promoting country's economic prosperity and inclusive growth. Besides commercial aspects, the banking sector channelises its financial services to socio-economically deprived poor section at softer terms and conditions. In India, the Commercial Banks mainly Scheduled, both in Public and Private domains, are claimed to be the main motivators in socio-economic prosperity and growth with a proper blending of commercialization and socialization. But in this process, they have to bear tremendous pressure to sustain successfully in their financial operation mainly in the competitive financial environment with the rest of the world. Therefore, to preserve the financial movement towards country's socio-economic progression, both the public and private banking sectors, have to maintain a strong financial health concerned mainly with their steady profitability position. It is well-accepted fact that profitability, as determined through some financial ratios, is considered as an indicator of consistent financial position of any organization including banks towards sustainability. In this issue, banks consider some specific profitability ratios like net-profit, net-interest income and net-worth related ratios etc. On this ground, the present paper takes its objectives as to (i) assess the profitability position of the Scheduled Commercial Public and Private Banks listed in Bombay Stock Exchange (BSE), (ii) test the consistency in the profitability position of the said banks and (iii) frame a bank-bank and bank-sector specific comparative analysis on the consistent profitability position of the banks throughout the study period (2001-2002 to 2014-2015) with the application of some selected profitability ratios and some statistical tools, techniques under relevant research methodology.

Key Words: Scheduled Commercial Public Sector Banks, Scheduled Commercial Private Sector Banks, Profitability, Consistency, Profitability Ratio.

JEL Classification: G21

Paper Classification: Research Paper

Introduction

In a financial system of any country at any economic developmental phase, Banking Sector plays the most significant financial intermediation with its smooth channelization of financial services from have to haven't. In India, likewise, Banks specially Commercial Banks (Scheduled) are supposed to be the most vibrant component of financial sector in maintaining socialization

with commercialization aspect. In this issue, the Scheduled Commercial Public Banking Sector should be attached with special importance for their promotional financial attitude towards economically excluded poor of society as per the Central Banking principles and norms which ultimately assures inclusive growth with economic prosperity in our financial structure. This progressive movement of Banking Sector has got special shape with the involvement of Private Banking Sector under its purview. Scheduled Commercial Private Banking Sector introduces modernized and superior design of financial services and products to all the beneficiaries attached with it. Therefore, all these issues along with the huge pressure of the financial assistants from all sections of society, puts tremendous pressure on the Scheduled Commercial Public Banking Sector which should be covered up by the sound financial health as detected by consistent profitability position of the said Banking Sector (Chaudhary, 2014). In the same line, Scheduled Commercial Private Banking Sector also has to maintain a consistent financial movement towards socio-economic development of any country. In this regard, different Government policy recommendations (Narasimham Committee etc.) have declared the requirement of maintenance of adequate financial health in Banking business to ensure successful sustainability. The short-term and long-term prosperity and financial strength of a bank of any Banking sector, therefore, is based completely on the consistent profit-earning capacity of the same (measured through different profitability ratio analyses) throughout operational age of it (Singh, 2002). In this context, besides the well applied profitability ratios (Return on Asset, Return on Equity etc.), the position of profitability of any bank may also be judged by net-income, net-interest, net-worth related ratios which are considered as the main sources of inflow of fund and also the wealth of the banking sector.

Taking into consideration the background of the present paper, the remainder parts of the present study have been designed into eight more sections. Section 2 and 3 respectively have enumerated the review of related literature and the research gap connected with the studies. The objectives of the present study have been reflected under Section 4. An overview of the Scheduled Commercial Public and Private Banks in India has been explored in Section 5. Section 6 has presented the methodology of the present study, while in section 7 the analysis, findings and interpretations of the study have been discussed. The conclusion part here has been addressed in Section 8. The last three sections 9, 10 and 11 respectively reflect the significance of the study, limitations of the study and the scope of further research.

Review of the Related Literature

The Scheduled Commercial Banks basically of Public and Private may have the main focal points in Indian economy for their notable socio-economic contribution towards growth and prosperity of the country. Numerous eminent academicians and researchers have considered this field of study for analysing the prosperity and profitability position of Scheduled Commercial Banks (Public and Private) in different dimensions.

Madhura (2009) and later on the other researchers like Payne (2011), James (2013), Karim and Alam (2013) considered the significance of different financial ratios in measuring the overall financial health of Commercial Banks. In addition thereto, they undertook ratios to indicate the adequacy of the risk based capital, credit growth and concentration, liquidity ratio, liquidity gap analysis etc.

Singh (2002) in his study referred mainly the profitability ratios as the significant assessors of financial strength and weakness of Commercial Banks where Najjar (2013) and other researchers (Karim & Alam, 2013; Sangmi & Nazir, 2010; Hughes & Mester, 2013) recognised specifically some

profitability ratios like Return on Assets (ROA), Return on Capital Employed (ROCE), Return on Equity (ROE), Return on Investment (ROI), Return on Net Worth (RONW) as the important measures of the consistent profitability position of Commercial Banks. Najjar (2013) in his study additionally specified the impact of the size and type of banks on performance of different ratios over years. The same thing was also reflected in the study of Kundal (2012) and Hughes & Mester (2013) where the banking sector was segmented into number of banks, offices, employees, deposit & advances per employee, non-performing assets, asset size etc. and measured the productivity of Commercial Banks. Under this study, an interrelationship was found between profitability and efficiency of Commercial Banks where in the Scheduled Commercial Public Banking Sector enjoyed an increasing trend of profitability but also experienced challenges in their successful survival for which they had to leave space in their competitive fields for Private and Foreign Banks. Karim and Alam (2013) in this context, categorised the measurement areas of financial health of Commercial Banks under – Internal Based, Market Based and Economic Based following ROA, Tobin's Q Model and Economic Value Added. In their study, Sangmi and Nazir (2010) adopted earning-profit ratio (ROA, ROE) along with the earning, capital adequacy, asset-quality, management capability and liquidity to analyse the earning capacity of two leading Commercial Banks of Northern India [Punjab National Bank (PNB) and Jammu-Kashmir Bank]. Ramasastry, et. al. (2004) measured the profitability position of the specific banking sector by considering interest and non-interest income related ratios. Fatima (2014) in this context, considered only capital adequacy ratio as recommended by Basel Committee following Tier I, II, III Capital Bases Norm. In all these matters, customer service quality was found to have a positive correlation with capital adequacy, interest margin and ROA (Elizabeth & Greg, 2004).

Research Gap

Hence, from the literature so far reviewed, it can be detected that no vivid study was conducted on all the listed (stock exchange) Scheduled Commercial Public and Private Banking Sectors to have an overall idea of the profitability position of all the concerned banks under this sector. No study, till reviewed, considered an overall comparative analysis of the profitability position of all Scheduled Commercial Public and Private Banking Sectors. From this perspective, to fill up the gap, the present study has been structured out where all the listed Scheduled Commercial Public and Private Banking Sectors (Bombay Stock Exchange, 18th June, 2015) have been taken to measure the profitability trend of all the concerned banks based on some basic profitability ratios on net-profit, net-interest income and net-worth.

Objectives of the Present Study

The present study primarily aims at (i) assessing the profitability position of the Scheduled Commercial Public and Private Banking Sectors, listed in Bombay Stock Exchange (BSE) (18.06.2015) based on some basic profitability ratios [Return on Capital Employed (RONW), Net Profit to Total Fund (NP/TF) and Net Interest Income to Total Fund (NII/TF)] and (ii) testing the consistency in the profitability position of the said banks during the study period.

Specifically, it holds its objectives as to frame a bank-bank and bank-sector specific comparative analysis to identify respectively the best course consistent performer of the listed banks in each banking sector (only Scheduled Commercial Public Banking Sector, only Scheduled Commercial Private Banking Sector and Overall Scheduled Commercial Public and Private Banking Sectors) and also to detect the bank(s) with better consistent performance than that of the specific sector throughout the study period with application of the said profitability ratios.

Scheduled Commercial Public and Private Banking Sectors in India – An Overview

Indian banking system has started its journey in the 18th century and since then it is experiencing radical changes in its shapes (Scheduled, Non-Scheduled, Nationalised Public Sector Banks, State Bank of India and its Associates, Private Sector Banks, Foreign Banks etc.) and norms as specified by different phases like Nationalisation and Consolidation Era (1955-1990), Indian Financial and Banking Sector Reforms and Partial Liberalisation (1990-2004) and the Period of Increased Liberalisation (2004 onwards) etc. In its progressive movement towards country's inclusive economic growth prospect, Indian Banks mainly Scheduled engage themselves in Retail Banking (individual or small business), Whole-Sale Banking (corporate), Treasury Operations (Investment in Debt Market, Equity Market, Mutual Funds, Derivative Trading) and Para Banking Business (Hire Purchase, Leasing, Merchant Banking, Factories etc.). Among the Scheduled Banks [Commercial and Cooperative Banks (Rural and Urban)], the Commercial Banks [Public Sector Banks, Private Sector Banks, Foreign Banks and Regional Rural Banks] are claimed to be the main pathfinders in socio-economic prosperity of our country with appreciable levels of savings deposit, deployment of credit and investment to all sectors, priority or not. In this context, both Public and Private Sectors accompany the social progression with due respect with commercialization as blended with socialization. The RBI has regarded mainly the Public Sector as a means to achieve the socio-economic inclusion for all the financially excluded poor of our country. But in spite of their prestigious appearance in India, the Public Sector Banks have to face sustainability challenge in their operations mainly due to lack of fresh capital injection, non-proactive assessment, ageing workforce etc. All these issues are being aggravated with the introduction of reformation of Indian economy i.e. privatization of banking enterprise, curbing Government protectionism. In this issue, Scheduled Commercial Private Banking Sector with their professionalism somehow can act more efficiently than their counter part, Scheduled Commercial Public Banking Sector, whose effect can be found in their financial statements where lower amount of Non-Performing Assets (NPA) and higher level of Net Profit, in comparison with the same in the Scheduled Commercial Public Banking Sector (Economic Times, 2016), are detected. Therefore, all the Commercial Banks should maintain progressive provisions of the RBI, following basic requirement of minimum asset-liabilities standard.

Methodology of the Present Study

Type of Study. Methodology followed in the present study is predominantly an empirical one.

Method of Data Collection. Data of the present study has been collected exclusively from secondary sources mainly from 'Capitaline Database'

Period of Study. 14 consecutive financial years (2001-2002 to 2014-2015) have been taken for the study period.

Variables studied. The Study has been made on 37 Scheduled Commercial Banks (23 Scheduled Commercial Public Banks and 14 Scheduled Commercial Private Banks) (total population) listed in Bombay Stock Exchange (18.06.2015) on the basis of Market Capitalisation.

Research Models. To analyse the profitability related issues, data on the three basic profitability ratios like (a) Return on Net Worth (RONW) (per cent), (b) Net Profit to Total Fund (NP/TF) (per cent) and (c) Net Interest Income to Total Fund (NII/TF) (per cent) have been collected from Published Annual Reports of individual Scheduled Commercial Public and Private

Banking Sector for 14 consecutive financial years from 2001-02 to 2014-15 as disclosed in the said database.

The present study has been framed under two phases – I and II (appendix). Phase-I has considered the issues on the Measurement of the Profitability Consistency under one Dimension (D) (Commercial Banking Sector) wherein, three groups have been considered for measurement purpose like Group A – Only Scheduled Commercial Public Banking Sector, Group B – Only Scheduled Commercial Private Banking Sector and Group C – Overall Scheduled Commercial Public and Private Banking Sectors. In Phase -II, the present study has been continued to test whether the profitability of each bank under study significantly differs from each other.

Statistical Tools and Hypotheses. The consistent performance of each concerned profitability ratio of all the banks under study (individually for three groups of the dimension) for the selected study period has been judged by Coefficient of Variation (CV).

The formula of CV can be enumerated as follows.

$$CV = \frac{sd}{mean} \times 100 \dots\dots\dots(1)$$

Here, higher the CV indicates lesser consistency in the performance of the profitability ratios. Now, to make a comparative analysis on the profitability position within and between the Scheduled Commercial Public and Private Banking Sectors and with the specific Banking Sector, an individual ranking of each bank against CV of the individual profitability ratio for the respective study period has been assigned. This effort has been carried on individually for the three specific groups under the dimension. After this, each of the banks has been assigned composite rank based on the summation of the three profitability ratios to get a concrete score (Sur et al, 2013; 2013).

Difference between at least two banks under study can be assessed with Two-Way ANOVA test statistic of each profitability ratio. But before this application, it is highly recommended to test the normality of time series data. Here, the normality test has been conducted by Jarque-Bera (JB) test statistic. ANOVA can only be tested on the normal time series data.

The general model of Jarque-Bera Test and Two-Way ANOVA can be depicted as under.

Test for Normality: Jarque-Bera Test

$$JB = n \left[\frac{S^2}{6} + \frac{(K-3)^2}{24} \right] \dots\dots\dots(2)$$

Where, n= number of observations,

S = Skewness, K= Kurtosis

For a normal distribution the values of S and K should be 0 and 3 respectively so that JB becomes equal to 0. A high value of JB is an indicator of non-normality. In other words, if the p value of the corresponding JB statistic is less than or equal to 0.05 then the data would be considered non-normal at significance level of 5 per cent or less.

ANOVA (Two Way) :The General model can be written as

$$X_j = \mu + \alpha_i + \beta_j + \varepsilon_j \dots\dots\dots(3)$$

Where, μ denotes the general effect

α_i is the effect of i th class according to column factor

β_j is the effect of the j th class according to row factor

ε_{ij} is the error component with '0' mean and σ^2 variance

Hence, the null hypotheses are

$$H_0 = (\alpha_1 = \alpha_2 = \dots \alpha_t)$$

&

$$H_0 = (\beta_1 = \beta_2 = \dots \beta_r)$$

And Alternative hypotheses are

H_1 : At least two α_i 's are different

&

H12 : At least two β_j 's are different

Decision rule:

If $F_{cal} < F_{table}$ accept H_0 or otherwise reject H_0 .

General ANOVA table for Two-way classification without replication

Source of Variation	Sum of Square	Degree of Freedom	Mean sum of square	F ratio
Between columns(Treatments)	SSC	c-1	MSTR=SSC/c-1	MSTR/MSE
Between Rows (Blocks)	SSB	r-1	MSB=SSB/r-1	MSB/MSE
Residual Error	SSE	(c-1)(r-1)	MSE=SSE/(c-1)(r-1)	

Analysis, Finding and Interpretation of the Present Study

Phase I – Measurement of Profitability Consistency – Dimension (D): Scheduled Commercial Banking Sector:

Group – A (G A): Scheduled Commercial Public Banking Sector. As per the consistency of RONW throughout the study period from 2001-2002 to 2014-2015 as measured by CV, the State Bank of India (SBI) has been found to hold the highest rank with lowest CV (16.37014 per cent) out of 23 Scheduled Commercial Public Banks, followed by Punjab National Bank (PNB), State Bank of Bikaner, Corporation Bank etc., while the Union Bank of India has shown the worst performance (last rank 23rd) with highest CV (139.348 per cent). The consistency position of the said ratio of the first four banks (SBI, PNB, State Bank of Bikaner, Corporation Bank) throughout the respective study period has also been found in better position than that of the specific Banking Sector as verified by the CV of it (26.5085 per cent) throughout the study period.

Based on the consistency in NP/TF as measured by CV, Syndicate Bank has secured the best performance (1st rank) holding the lowest CV (15.75186 per cent) among the 23 banks of the said Commercial Banking Sector as followed by SBI, PNB, Industrial Development Bank of India (IDBI) etc. Dena Bank here has held the last rank (23rd rank) for its highest CV (125.8987 per cent). In this

regard, the consistency level of NP/TF of the above mentioned first four banks (Syndicate Bank, SBI, PNB and IDBI) along with the next two best performers [State Bank of Bikaner and Bank of Baroda (BOB)] has been even better than that of the specific banking sector as a whole (CV 28.515 per cent).

In the consistency of the performance of NII/TF as confirmed by the respective Scheduled Commercial Public Banking Sector during the study period, PNB has maintained the best performance position (1st Rank), with the lowest CV (7.92 percent), followed by Bank of India (BOI), SBI, Vijaya Bank etc. But Industrial Development Bank of India (IDBI), the 9th and 4th as per the consistent performance of RONW and NP/TF respectively during the study period, has been attached with the lowest rank (23rd rank) with highest CV (69.35 percent). Only PNB, in this regard, has been found to hold better position in respect of the consistent performance of the respective ratio than that of the specific banking sector (CV 8.78 per cent).

As per the composite ranking on the CVs of the profitability ratios of the respective Scheduled Commercial Public Banking Sector, it can be observed that both SBI and PNB have been at the top most position (with the highest rank), followed by BOB, SBI, Bikaner (jointly in the next rank) etc. which indicates the fact that the variability in the respective three profitability ratios have been found to be the least in the said banks as followed by BOB, State Bank of Bikaner (jointly in the next best position), United Bank of India, Andhra Bank etc. On the contrary, the Union Bank of India and Punjab-Syndicate Bank have been found at the lowest composite ranking due to least consistent performance of the three respective ratios during the study period.

In this context, apart from SBI itself, only two Banks from SBI associates (SBI, Bikaner and SBI, Mysore) have been listed in BSE (18.06.2015). Both the banks have been detected within the first ten overall best performers (SBI, Bikaner on 3rd composite ranking and SBI, Mysore on 10th composite ranking) as per the consistent profitability position of the same throughout the respective study period. From other Scheduled Commercial Public Banking Sector, only IDBI has been found to be listed but its performance has not been up to the mark as per the composite ranking based on the consistent profitability position of the same throughout the study period as detected by the CVs of the three profitability ratios during the study period.

Table – 1 here reflects all the facts and figures relating to the consistency of the three concerned ratios (RONW, NP/TF and NII/TF) during the study period for Scheduled Commercial Public Banking Sectors.

Group – B (G B): Scheduled Commercial Private Banking Sector. As per the consistency of RONW throughout the study period from 2001-2002 to 2014-2015 as measured by CV, the Housing Development Finance Corporation (HDFC) has been found to hold the highest rank with lowest CV (12.37 per cent) out of the 14 Scheduled Commercial Private Banks listed in BSE (18.06.2015), followed by Kotak, Axis, Citi etc. On the contrary, the Jammu & Kashmir (JK) Bank has shown the worst performance (last rank 14th) with highest CV (103.665 per cent). In this context, the consistency position of the said ratio of the first two banks (HDFC, Kotak) throughout the respective study period has also been found in better position than that of the specific Banking Sector as verified by the CV of the specific Banking Sector (20.745 per cent) of the study period.

Based on the consistency in NP/TF as measured by CV, HDFC again has secured the best performance rank holding the lowest CV (10.87255 per cent) among the 14 banks of the said Commercial Banking Sector as followed by Citi, Axis, Federal etc. In this issue, DCB has not been assigned for any rank as the CV here has been detected as negative due to negative mean. So Dhana Lakshmi Vilas Bank has been considered at the last rank (13th rank) for its highest positive

CV (451.3073 per cent). In this regard, the consistency level of NP/TF of the above mentioned first three banks (HDFC, Citi and Axis) has been better than that of the specific banking sector as a whole (CV 22.033 per cent).

In the consistency of the performance of NII/TF as confirmed by the respective Scheduled Commercial Public Banking Sector during the study period, Citi Bank has maintained the best performance position (1st Rank) with the lowest CV (11.231 per cent), followed by HDFC, Axis, Federal etc. On the other hand, like NP/TF, in NII/TF also DCB and Dhana Lakshmi Vilas Bank with negative and highest CV (451.3073 per cent) respectively have held the same ranks. The first two ranks (Citi and HDFC) in this regard, have been found to hold better position in respect of the consistent performance of the respective ratio than that of the specific Banking Sector (CV 17.8886 per cent).

As per the composite ranking of the respective Scheduled Commercial Private Banking Sector, obtained by adding the three individual ranks, it can be observed that HDFC has been at the top most position (1st rank) which indicates the fact that the variability in the respective three profitability ratios have been found to be the least in the said bank followed by Citi, Axis, Federal, Karur Vysya etc. On the contrary, Dhana Lakshmi Vilas has been found at the lowest composite ranking due to least consistent performance of the three respective ratios.

In this context, out of total 14 listed (BSE, 18.06.2015) Scheduled Commercial Private Banks, only 5 Banks have been detected under the new Scheduled Commercial Private Banking Sector (HDFC, ICICI, Axis, Kotak, IndusInd) while rest of the banks have been from the old categories. New Scheduled Commercial Private Banking Sector here has contained both the best (HDFC) and worst (DCB) performers as per the overall consistent performance of the profitability position of the respective banks in the study period, while the overall performance of the old Scheduled Commercial Private Banking Sector has been considered to be moderate (within 2 to 12 composite ranking).

Table – 2 here reflects all the facts and figures relating to the consistency of the three concerned ratios (RONW, NP/TF and NII/TF) during the study period for Scheduled Commercial Private Banking Sectors.

Group – C (G C): Overall Scheduled Commercial Public and Private Banking Sectors. As per the consistency of RONW throughout the study period from 2001-2002 to 2014-2015 as measured by CV, from the first five banks, three have come from Scheduled Commercial Private Banking Sector and the rest from the Scheduled Commercial Public Banking Sector. HDFC has been found to hold the highest rank with lowest CV (12.37164 per cent) out of 37 Scheduled Commercial Public and Private Banking Sectors, followed by SBI, Kotak, Axis, PNB etc. In overall Scheduled Commercial Public and Private Banking Sectors, the Union Bank of India has shown the worst performance (last rank 23rd) with highest CV (139.3477 per cent). The consistency position of the said ratio of the first three banks (HDFC, SBI, Kotak) throughout the respective study period has also been found in better position than that of the specific banking sector as verified by the CV of the specific banking sector (20.68655 per cent) of the study period.

Based on the consistency in NP/TF as measured by CV, HDFC has secured the best performance (1st rank) holding the lowest CV (3.998571 per cent) among the 37 banks of the said Commercial Banking Sector as followed by Citi, Syndicate, SBI, Axis etc. So in the first five banks, three have come from Private Sector and the rest from the Commercial Public Banking Sector. In this issue, Dhana Lakshmi Vilas Bank has held the last rank (36th rank) for its highest CV (451.3073 per cent). Here DCB has not been assigned any rank as its CV has been detected

as negative due to negative mean. In this regard, the consistency level of NP/TF of the above mentioned first three Banks (HDFC, Citi and Syndicate) has been better than that of the specific banking sector as a whole (CV 17.95704 per cent).

In the consistency of the performance of NII/TF as confirmed by the respective Scheduled Commercial Public and Private Banking Sector during the study period, PNB has maintained the best performance position (1st Rank) with the lowest CV (7.92 per cent), followed by Bank of India (BOI), SBI, Vijaya Bank, Andhra Bank etc. So the first five banks in the specific banking sector have come from Commercial Public Banking Sector. Dhana Lakshmi Vilas Bank, in this regard, again has held the last rank (36th rank) for its highest CV (451.3073 per cent). In this issue also, DCB has not been assigned any rank as the CV here has been detected as negative due to negative mean. Only PNB, in this regard, has been found to hold better position than that of the specific banking sector (CV 8.26 per cent).

As per the composite ranking of the respective Scheduled Commercial Public and Private Sector Banks, it can be observed that SBI has been at the top most position (1st rank) which indicates the fact that the consistency in the respective three profitability ratios has been found to be the maximum in the said bank followed by HDFC and PNB (jointly in the next best position) then Citi, Axis, State Bank of Bikaner etc. On the contrary, the Lakshmi Vilas Bank has been found at the lowest composite ranking due to least consistent performance of the three respective ratios.

Comparing Scheduled Commercial Public Banking Sector with the Private Sector ones, it can be detected that the CVs of the former ones have been more in all the profitability ratios than that of the Scheduled Commercial Private Banking Sector. That means the Banking Sector specific performance of Public Commercial Banks seems to be worse than that of the Private Commercial Banks due to lesser consistent performance of profitability throughout the study period as measured by the concerned ratios.

Table – 3 here reflects all the facts and figures relating to the consistency of the three concerned ratios (RONW, NP/TF and NII/TF) during the study period for Overall Scheduled Commercial Public and Private Banking Sector.

Phase II – Test on the significant difference of Profitability of all Scheduled Commercial Public and Private Banking Sector

As per the normality test following Jarque-Bera test statistic along with probabilities, the below mentioned results for each of the profitability ratios can be obtained.

- For RONW, the data on all banks have been normally distributed with low Jarque-Bera and insignificant probabilities with exceptions of Corporation Bank and Union Bank of India.
- For NP/TF, except Indian Bank, Dena Bank, data of all the concerned banks have been found as normal with low Jarque-Bera and insignificant probabilities.
- For NII/TF, data on the concerned banks have been found as normally distributed with low Jarque-Bera and insignificant probabilities with exception of South Indian Bank.

Table – 4 exhibits the position of the normality test following Jarque-Bera and the corresponding probabilities on the three specific ratios.

Table 5, 6 and 7 report the results of Two-way ANOVA. From these three results one could observe that in all the three cases observed F-statistics are higher than the critical F. Hence, Null Hypotheses are rejected and Alternative Hypotheses are accepted. We can safely conclude that

at least two banks (from each of the dimension) are different in terms of profitability. Moreover, banks' profitability also varies each year.

Conclusion

Most of the Scheduled Commercial Public Banking Sector in their profitability position are supposed to be inconsistent to some extent as judged by consistent levels of profitability ratios (RONW, NP/TF, NII/TF) throughout the study period excepting some specific banks (State Bank of India, Punjab National Bank, State Bank of Bikaner etc.) which repeatedly are found as better performers than the specific sector even. Therefore, the repeated appearance without the involvement of all Public Sector Banks is not proved to be a healthy growth prospect for the respective Banking Sector. On the contrary, the Scheduled Commercial Private Banking Sector can somehow maintain consistent performance as per profitability position throughout the specific period of study with negligible exceptional cases. All these issues deduce public image on the performance stability and consistency of Scheduled Commercial Public Banking Sector in comparison with that of Private one which may be reflected in their selection of specific Banking Sector for operational purpose. This ultimately affects the sound health of Banking Sector at large as the sector is well occupied by the Scheduled Commercial Public Banking Sector mainly and till now the specific sector claims to deal with socialization aspect sincerely from all corners than the Scheduled Commercial Private Banking Sector in India. In Scheduled Commercial Private Banking Sector also one listed bank (DCB) has been found to hold negative impression of profitability ratios (NP/TF and NII/TF) and two banks (Karur Vysya, Kotak) prove to be inconsistent in profitability position throughout the study period. Moreover, the ever increasing Non-Performing Assets (NPA) hampers hugely the growth prospect of Banking Sector and sometimes limits their performance in commercialization only.

Therefore, both the Scheduled Commercial Public and Private Banking Sectors should adopt monitoring scheme to judge the performance of profitability of the banks along with maintaining of proper governance practice on the performance of these. Government in this regard, has announced the formation of Bank Board Bureau in the last Budget, to select the top management of Banking Sector and to identify plans for raising capital for the same. The Finance Ministry has worked out Rs.70000 crore capitalization plan for state-run bank over four years as per the estimation of Rs.1.8 lakh crore of additional capital during that period out of which Rs.1.1 lakh crore will be raised from the market (RBIELRRFL). NPA here should be managed strategically by all the banks. SBI, in this regard, has identified the non-core assets and unlisted entities which it plans to monetize to meet capital and regulatory requirements (SBITMNAUE). RBI eases the liquidity rule as per the requests of the leading Commercial Banks in India and releases Rs.2.81 lakh crore for lending (Economic Times, 2016). Now to assure a steady prosperity in the overall Banking Sector, Banks should be connected with tailor made customization of their financial performance with a consistent position of profitability throughout their performing period in view of maintaining a real balance between commercialization with socialization with controllable effect of financial inclusion applying advancement in professionalism (PSBDDAFNPA).

Significance of the Study

Banking Sector is supposed to be the main focal point of financial set up of any country. It is very obvious that the consistent financial movement of the very financial institution is always preferable for socio-economic growth of any county specially developing country like ours, suffering due to socio-economic disasters like poverty, unemployment etc.. Focusing on this issue, many eminent researchers have considered the assessments of the financial soundness of the

very sector. From the literature reviewed so far, it would be detected that most of the researchers have considered profitability as the most important measure of financial soundness of banks as judged by some specific profitability ratios (ROA, RONW, ROE, ROI etc.). They have found a significant association between the assets and size and type of the banks with their performance in profitability area. But no single work has made any effort to consider a vivid study on all the listed Commercial Banks with which the overall profitability position of all banks could be reflected.

The present study has considered the vivid assessment of profitability position of all the listed Commercial Banks arranged in three groups, two groups for Public, Private Banks separately and one group for Public and Private Banks jointly under whole Commercial Banks, following some specific financial ratios in net worth, net profit and net income areas. The group specific in-depth assessment has been explored to recognize the best and worst performing banks in profitability of the very group. The study, therefore, would assist the relevant financial sector to identify the most consistent banks and least consistent one in each banking group and banking sector as a whole. All these would encourage an intensive study on the profitability position of the said banking sector on which policy makers can make individual policies for individual group.

Limitations of the Study

The limitations of the present study are mentioned as below.

- Data of the present study have been collected only on the listed Scheduled Commercial Public and Private Banking Sectors and for only 14 years as available from the Capitaline Database keeping in mind the time and resource constraints.
- Ratios used in the present study have been collected from the Capitaline Database, calculated on the basis of the Annual Reports of the concerned banks as declared by the database. The authenticity of the ratio is based on the said reports of the database only.

Scope for further research

The present study has been limited to the Scheduled Commercial Public and Private Banking Sector as per the scope of its objectives. However, further research can be carried on many other areas involving:

- Inter and intra comparative analysis of profitability position of Foreign Banks and on RRB in India.
- State-wise comparative analysis of profitability position of Commercial Banks in India.

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Authors' Profile

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Figure 1: Phases used in analysis of the present study

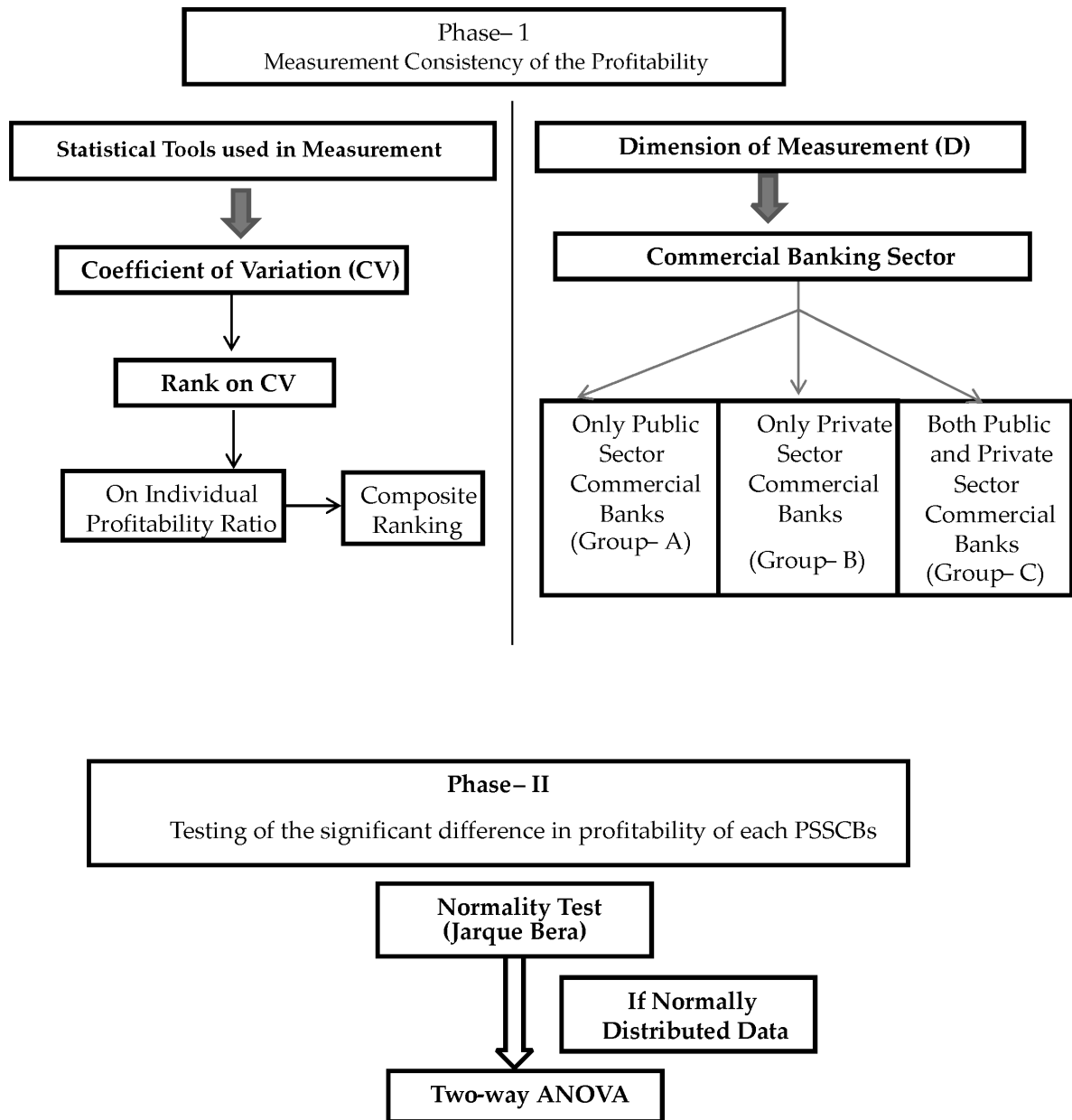


Table 1: Measurement of Consistency of RONW, NP/TF, NII/TF of Scheduled Commercial Public Banking Sector

SCPUBBS	RONW				NP/TF				NII/TF				Composite Rank	
	Mean	SD	CV	Rank	Mean	SD	CV	Rank	Mean	SD	CV	Rank	Rank	Rank
SBI	16.052	2.628	16.370	1	0.868	0.150	17.264	2	2.87	0.29	10.14	3	1.5 (6)	
BOB	16.255	4.400	27.066	5	0.948	0.247	26.087	6	2.72	0.39	14.24	10	3.5 (21)	
PNB	21.275	4.644	21.829	2	1.093	0.228	20.880	3	3.40	0.27	7.92	1	1.5 (6)	
Central Bank	13.673	8.408	61.493	19	0.424	0.335	78.957	19	2.74	0.71	25.86	22	21 (60)	
Canara Bank	20.533	6.106	29.736	7	1.016	0.294	28.879	7	2.57	0.41	15.81	14	9 (28)	
BOI	18.502	7.267	39.274	11	0.841	0.334	39.754	13	2.55	0.25	9.87	2	7 (26)	
IDBI	9.389	3.480	37.071	9	0.640	0.150	23.385	4	0.91	0.63	69.35	23	12.5 (36)	
UBI	21.301	6.574	30.861	8	0.934	0.279	29.818	8	2.88	0.33	11.32	6	5 (22)	
Syndicate Bank	25.649	7.345	28.635	6	0.859	0.135	15.752	1	3.00	0.64	21.46	20	8 (27)	
Indian Bank	14.568	9.375	64.357	21	0.999	0.795	79.654	20	3.13	0.47	15.12	12	20 (53)	
UCO	16.781	9.430	56.193	18	0.581	0.234	40.295	14	2.46	0.42	17.30	15	17 (47)	
Alahabad Bank	21.014	9.741	46.356	15	0.949	0.419	44.166	16	2.94	0.44	14.92	11	15 (42)	
Oriental Bank	16.923	6.960	41.126	13	0.972	0.385	39.559	12	2.79	0.57	20.55	18	16 (43)	
IOB	21.388	10.479	48.996	17	0.881	0.443	50.293	17	2.97	0.56	18.76	16	18 (50)	
Corporation Bank	17.386	4.306	24.770	4	1.193	0.373	31.228	9	2.65	0.63	23.72	21	11 (34)	
Andhra Bank	22.999	8.841	38.441	10	1.186	0.418	35.259	10	8.73	0.97	11.11	5	6 (25)	
Bank of Maharashtra	15.861	7.340	46.276	14	0.616	0.259	42.062	15	8.40	0.96	11.40	7	12.5 (36)	
State Bank of Bikaner	19.652	4.586	23.337	3	0.965	0.231	23.911	5	3.21	0.50	15.46	13	3.5 (21)	
Vijaya Bank	18.543	9.011	48.595	16	0.814	0.428	52.590	18	8.63	0.88	10.24	4	14 (38)	
Dena Bank	14.948	9.283	62.103	20	0.550	0.692	125.899	23	2.62	0.31	11.70	8	19 (51)	
State Bank of Mysore	21.067	8.520	40.443	12	0.919	0.339	36.856	11	3.11	0.43	13.74	9	10 (32)	
Union Bank of India	8.484	11.823	139.348	23	0.540	0.584	108.234	22	2.67	0.53	19.74	17	22.5 (62)	
Punjab-Syndicate Bank	16.394	14.308	87.274	22	0.684	0.710	103.749	21	2.78	0.59	21.25	19	22.5 (62)	
Enterprise (SCPUBBS)	17.767	4.710	26.509		0.847	0.241	28.515		3.51	0.31	8.78			

Source: Authors' Calculation.

Note: The Listed Public Sector Banks (BSE, 18.06.2015) from 2001-2014 here have been selected. Figures in bracket indicate the total of Ranks against the consistency of three ratios of all SCPUBBS. SCPUBBS = Scheduled Commercial Public Banking Sector.

Table 2: Measurement of Consistency of RONW, NP/TF, NII/TF of Scheduled Commercial Private Banking Sector

SCPvtBS	RONW			NP/TF			NII/TF			Composite Rank		
	Mean	SD	CV	Rank	Mean	SD	CV	Rank	Mean		SD	CV
HDFC	19.1921	2.374383	12.37	1	1.52	0.165651	10.87255	1	3.998571	0.479918	12.00224	2
ICICI	13.15929	4.482222	34.06	8	1.21	0.322484	26.76216	6	1.205	0.322484	26.76216	6
Axis	21.64643	4.688749	21.66	3	1.32	0.26017	19.78479	3	1.315	0.26017	19.78479	3
Kotak	12.31643	2.46138	19.98	2	1.97	0.99318	50.43351	10	1.969286	0.99318	50.43351	10
IndusInd	16.32357	9.548042	58.49	12	1.03	0.616988	59.98497	12	1.028571	0.616988	59.98497	12
Federal	16.12929	4.495304	27.87	5	1.10	0.248503	22.59118	4	1.1	0.248503	22.59118	4
Citi	20.44714	4.516533	22.089	4	1.52	0.170631	11.231	2	1.519286	0.170631	11.231	1
Karur Vysya	20.58571	7.487782	36.373	10	1.68	0.414472	24.63952	5	1.682143	0.414472	24.63952	5
Jammu & Kashmir	5.496429	5.697871	103.665	14	1.38	0.481675	34.79592	9	1.384286	0.481675	34.79592	9
DCB	17.46429	6.273312	35.921	*	-0.07	1.35703	-1862.59	*	-0.07286	1.35703	-1862.59	*
South Indian	15.54	4.615514	29.709	6	0.90	0.279785	31.01338	8	0.902143	0.279785	31.01338	8
Karnataka	15.54	4.615514	29.701	6	1.04	0.2857	27.37715	7	1.043571	0.2857	27.37715	7
Lakshmi Vilas	11.30071	6.353018	56.218	11	0.66	0.360445	54.49489	11	0.661429	0.360445	54.49489	11
DhanaLakshmi Vilas	8.256429	6.817193	82.568	13	0.18	0.796237	451.3073	13	0.176429	0.796237	451.3073	13
Private Sector Bank	15.2427	3.16208	20.745		1.10	0.24	22.033		1.27949	0.228884	17.8886	

Source: Authors' Calculation

Note: The Listed Private Sector Banks (BSE, 18.06.2015) from 2001-2014 here have been selected.

Figures in bracket indicate the total of Ranks against the consistency of three ratios of all the Scheduled Commercial Private Sector Banks.

*Development Credit Bank (DCB) Limited has contained negative mean in NP/TF and NII/TF which ultimately has made the CV negative. In profitability measurement of Banks, therefore, negative CV (i.e. negative mean) might be ignored and thus no rank has been assigned for this bank for the respective two ratios and DCB here has been set aside from the respective analysis of profitability measurement. Though the Mean, S.D. CV of RONW of DCB is positive in the said study period. The specific banking sector has contained all the Private Commercial Banks (including DCB).

SCPvtBS = Scheduled Commercial Private Banking Sector.

Table 3: Measurement of Consistency of RONW, NP/TF, NII/TF of Overall Scheduled Commercial Public and Private Banking Sectors

OSCPubPvtBSs	RONW					NP/TF					NII/TF					Composite Rank	
	Mean	SD	CV	Rank	Rank	Mean	SD	CV	Rank	Rank	Mean	SD	CV	Rank	Rank	Rank	
		16.0521	2.628	16.37014	2	4	0.87	0.14983	17.26436	4	4	2.872143	0.291156	10.137	3	1 (9)	
SBI	16.255	4.40	27.06643	9	11	0.95	0.247267	26.08695	11	11	2.717143	0.386929	14.2402	12	7 (32)		
BOB	21.275	4.644	21.82879	5	6	1.09	0.228184	20.87958	6	6	3.403571	0.269575	7.920	1	2.5 (12)		
PNB	13.6729	8.408	61.49265	30	31	0.42	0.335002	78.95665	31	31	2.740714	0.708763	25.860	27	31 (88)		
Central Bank	20.533	6.106	29.73643	14	14	1.02	0.293536	28.87914	14	14	2.568571	0.40601	15.807	16	12.5 (44)		
Canara Bank	18.502	7.267	39.27421	20	22	0.84	0.334215	39.75371	22	22	2.552143	0.25183	9.867	2	12.5 (44)		
BOI	9.389	3.480	37.07135	18	8	0.64	0.149666	23.38531	8	8	0.910714	0.631548	69.346	35	22 (61)		
IDBI	21.301	6.574	30.86053	15	15	0.93	0.278587	29.81822	15	15	2.877143	0.325657	11.319	7	8.5 (37)		
UBI	25.649	7.345	28.63533	11	3	0.86	0.135241	15.75186	3	3	2.996429	0.643017	21.459	23	8.5 (37)		
Syndicate Bank	14.568	9.375	64.35675	32	32	1.00	0.795399	79.65371	32	32	3.131429	0.473479	15.120	14	29 (78)		
Indian Bank	16.78143	9.430	56.19261	27	23	0.58	0.234286	40.29493	23	23	2.456429	0.424873	17.296	17	26 (67)		
UCO	21.01357	9.741	46.35574	24	25	0.95	0.419257	44.1655	25	25	2.94	0.438704	14.922	13	23 (62)		
Alahabad Bank	16.92286	6.960	41.12601	22	21	0.97	0.384571	39.55912	21	21	2.789286	0.573269	20.553	21	25 (64)		
Oriental Bank	21.38786	10.479	48.99627	26	26	0.88	0.442935	50.29276	26	26	2.966429	0.556591	18.763	18	27 (70)		
IOB	17.38571	4.306	24.77007	8	17	1.19	0.372506	31.22802	17	17	2.646429	0.627653	23.717	25	14 (50)		
Corporation Bank	22.99929	8.841	38.44059	19	19	1.19	0.418067	35.25869	19	19	8.729286	0.969651	11.108	5	11 (43)		
Andhra Bank	15.86143	7.340	46.27639	23	24	0.62	0.258984	42.06233	24	24	8.402143	0.958221	11.404	8	18 (55)		
Bank of Maharashtra	19.65214	4.586	23.33703	7	9	0.97	0.230743	23.91119	9	9	3.206429	0.495714	15.46	15	6 (31)		
State Bank of Bikaner	18.54286	9.011	48.59521	25	28	0.81	0.428229	52.58953	28	28	8.625	0.883348	10.242	4	20 (57)		
Vijaya Bank	14.94786	9.283	62.10319	31	35	0.55	0.692443	125.8987	35	35	2.622857	0.306981	11.704	9	28 (75)		
Dena Bank	21.06714	8.520	40.4431	21	20	0.92	0.338809	36.8557	20	20	3.111429	0.427405	13.737	11	15 (52)		
State bank of Mysore	8.484286	11.822	139.3477	36	34	0.54	0.584466	108.2344	34	34	2.670714	0.527176	19.739	19	32.5 (89)		
Union Bank of India	16.39429	14.308	87.27431	34	33	0.68	0.709937	103.7486	33	33	2.782143	0.59109	21.246	22	32.5 (89)		
Punjab-Syndicate Bank																	

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HDFC	19.19214	2.374	12.37164	1	1.52	0.165651	10.87255	1	3.998571	0.479918	12.002	10	2.5 (12)
ICICI	13.15929	4.482	34.06129	16	1.21	0.322484	26.76216	12	1.205	0.322484	26.762	28	19 (56)
Axis	21.64643	4.689	21.66061	4	1.32	0.26017	19.78479	5	1.315	0.26017	19.785	20	5 (29)
Kotak	12.31643	2.461	19.98453	3	1.97	0.99318	50.43351	27	1.969286	0.99318	50.434	32	23 (62)
IndusInd	16.32357	9.548	58.49236	29	1.03	0.616988	59.98497	30	1.028571	0.616988	59.985	34	35 (93)
Federal	16.12929	4.495	27.87045	10	1.10	0.248503	22.59118	7	1.1	0.248503	22.591	24	10 (41)
Citi	20.44714	4.517	22.08882	6	1.52	0.170631	11.231	2	1.519286	0.170631	11.231	6	4 (14)
Karur Vysya	20.58571	7.488	36.37368	17	1.68	0.414472	24.63952	10	1.682143	0.414472	24.640	26	16 (53)
Jammu & Kashmir	5.496429	5.698	103.665	35	1.38	0.481675	34.79592	18	1.384286	0.481675	34.796	31	30 (84)
DCB	17.46429	6.273	35.9208	*	-0.07	1.35703	-1862.59	*	-0.07286	1.35703	-1862.59	*	*
South Indian	15.54	4.616	29.70086	12	0.90	0.279785	31.01338	16	0.902143	0.279785	31.013	30	21 (58)
Karnataka	15.54	4.616	29.70086	12	1.04	0.2857	27.37715	13	1.043571	0.2857	27.377	29	17 (54)
Lakshmi Vilas	11.30071	6.353	56.21784	28	0.66	0.360445	54.49489	29	0.661429	0.360445	54.495	33	34 (90)
DhanaLakshmi Vilas	8.256429	6.817	82.5683	33s	0.18	0.796237	451.3073	36	0.176429	0.796237	451.307	36	36 (105)
Enterprise	16.812	3.478	20.687		0.94	0.17	17.957		2.666	0.220	8.264		

Source: Authors' Calculation

Note: The Listed Public-Private Sector Banks (BSE, 18.06.2015) from 2001-2014 here have been selected.

Figures in bracket indicate the total of Ranks against the consistency of three ratios of all the Public-Scheduled Commercial Private Sector Banks.

* Development Credit Bank (DCB) Limited has contained negative mean in NP/TF and NII/TF which ultimately has made the CV negative. In profitability measurement of Banks, therefore, negative CV (i.e. negative mean) might be ignored and thus no rank has been assigned for this bank for the respective two ratios and DCB here has been set aside from the respective analysis of profitability measurement. Though the Mean, S.D. CV of RONW of DCB is positive in the said study period. The specific banking sector has contained all the Private Commercial Banks (including DCB).

OSCPub/PvtBSs = Overall Scheduled Commercial Public and Private Banking Sectors

Table 4: Test on the significant difference of RONW, NP/TF, NII/TF of Scheduled Commercial Public and Private Banking Sectors - Normality Test

Scheduled Commercial Public and Private Sector Banks	RONW		NP/TF		NII/TF	
	Jarque-Bera	Probability	Jarque-Bera	Probability	Jarque-Bera	Probability
SBI	0.983	0.612	1.070	0.586	0.16	0.92
BOB	0.577	0.749	0.339	0.844	0.47	0.79
PNB	1.792	0.408	0.447	0.800	1.16	0.56
Central Bank	0.390	0.823	4.772	0.092	1.17	0.56
Canara Bank	0.807	0.668	0.503	0.778	1.25	0.54
BOI	1.256	0.534	1.020	0.600	1.24	0.54
IDBI	0.850	0.654	0.311	0.856	0.52	0.77
UBI	0.906	0.636	0.903	0.637	0.95	0.62
Syndicate Bank	1.256	0.534	0.429	0.807	0.95	0.62
Indian Bank	1.278	0.528	13.434	0.001	2.22	0.33
UCO	0.466	0.792	0.340	0.843	1.25	0.54
Alahabad Bank	0.595	0.743	1.113	0.573	1.28	0.53
Oriental Bank	1.936	0.380	1.551	0.460	0.73	0.70
IOB	1.160	0.560	1.378	0.502	1.09	0.58
Corporation Bank	6.643	0.036	2.020	0.364	1.34	0.51
Andhra Bank	0.095	0.953	0.268	0.875	0.92	0.63
Bank of Maharashtra	0.571	0.752	0.305	0.859	1.50	0.47
State Bank of Bikaner	0.116	0.944	5.641	0.060	0.41	0.81
Vijaya Bank	2.730	0.255	5.004	0.082	1.06	0.59
Dena Bank	1.408	0.494	21.387	0.000	0.84	0.66
State bank of Mysore	0.711	0.701	0.769	0.681	0.87	0.65
Union Bank of India	32.332	0.000	4.799	0.091	1.23	0.54
Punjab-Syndicate Bank	1.418	0.492	0.745	0.689	0.87	0.65
HDFC	3.219256	0.200	3.729	0.155	0.876	0.645
ICICI	0.81811	0.664	1.346	0.510	1.345	0.510
Axis	2.898644	0.235	1.613	0.446	1.612	0.446
Kotak	1.064869	0.587	4.684	0.096	4.684	0.096
IndusInd	4.106987	0.128	1.111	0.573	1.111	0.573
Federal	1.583368	0.453	1.579	0.453	1.579	0.453
Citi	0.577567	0.749	3.943	0.139	3.943	0.139
Karur Vysya	0.431098	0.806	0.138	0.933	0.138	0.933
Jammu & Kashmir	1.189987	0.552	0.184	0.912	0.184	0.912
DCB	2.717125	0.257	3.274	0.194	3.273	0.194
South Indian	0.981975	0.612	16.451	0.0002	16.451	0.0002
Karnataka	0.981975	0.612	1.983	0.371	1.982	0.371
Lakshmi Vilas	1.037136	0.595	1.004	0.605	1.004	0.605
DhanaLakshmi Vilas	1.021184	0.600	3.668	0.159	3.665	0.159

Source: Author's Calculation

Table 5: Test on the significant difference of RONW of Scheduled Commercial Public and Private Banking Sectors - ANOVA

Source of Variation	SS	Df	MS	F	P-value	F crit
Rows (Year)	5800.158	13	446.166	10.45436	1.74E-19	1.741699
Columns (Bank)	9960.431	35	284.5837	6.668239	4.28E-24	1.449075
Error	19418.26	455	42.67749			
Total	35178.85	503				

Source: Authors' Calculation

Table 6: Test on the significant difference of NP/TF Scheduled Commercial Public and Private Banking Sectors - ANOVA

Source of Variation	SS	Df	MS	F	P-value	F crit
Rows (Year)	13.89676	13	1.068982	4.946785	3.67E-08	1.741699
Columns (Bank)	78.22886	35	2.23511	10.34312	3.99E-39	1.449075
Error	98.32379	455	0.216096			
Total	190.4494	503				

Source: Authors' Calculation

Table 7: Test on the significant difference of NII/TF of Scheduled Commercial Public and Private Sector Banks - ANOVA

Source of Variation	SS	Df	MS	F	P-value	F crit
Rows (Year)	23.49327	13	1.807175	6.017327	2.2E-10	1.741699
Columns (Bank)	2081.424	35	59.46924	198.014	2.6E-251	1.449075
Error	136.6495	455	0.300329			
Total	2241.566	503				

Source: Authors' Calculation