Financial Efficacy of Selected Public and Private Sector Banks in India

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Abstract

The banks in India have over 67,000 branches located across the country. All these are classified into two major categories, non-scheduled banks and scheduled banks. Scheduled banks include commercial banks and the co-operative banks. The public sector banks are accountable for more than 78 percent of total banking industry in India. Even though private sector banks came later into the market, due to their customer servicing and easy banking features they are also competing equally with already existing public sector banks, so it is very essential to analyze how their financial performance is influenced by number of factors which will further suggest them where they need to concentrate more. In this article we have analyzed the correlation between return on total assets and other financial variables of selected private and public banks in India.

Keywords: Banks; Finance; Service; Customer; Branch

1. Introduction

The introduction of virtual banking has fetched massive developments in the banking industry. Such virtual banking services are Automated Teller Machines (ATMs), Shared ATM Networks, Electronic Fund Transfer at Point of sale (EFTPos), Smart Cards, Stored-value Cards, Phone-banking, Internet and Intranet banking. The renewed focus on the banking sector has been driven by two major considerations. At first, the growing universalisation and internationalization of banking operations, driven by a combination of factors, such as the continuing deregulation, heightened competition and technological advancements, have altered the face of banks from one of mere intermediator to one of provider of quick, efficient and consumer-centric services. In the process, the potential for risks has also increased. Secondly, the widespread banking problems that have plagued large areas of the globe have raised a gamut of questions relating to the linkage between banking reforms and reforms of other segments of the financial sector, the extent of exposures to sectors, which are characterized by asymmetric information problems and the ‘contagion’ effect. It has, therefore, become necessary to promote robust financial practices and policies especially in respect of banks, in order to sustain financial stability.

2. Scope of the study

The scope of the study is wider in nature. It covers the financial performance of selected commercial banks in India, which were under the control of the Reserve Bank of India.
3. Objectives and Hypothesis of the study

The study is conducted with the following objectives of identifying the best bank group and to find out the crucial factors responsible for the profitability of selected commercial banks in India. To assess the financial parameters which determine the profitability of the selected commercial banks in India. Keeping in view the problem and the scope of the study, the researcher has decided to include both public and private sector banks. The data for the study have been collected mainly from the secondary sources comprising various books, periodicals, journals, etc. Further, for the purpose of analysis, detailed information are collected mainly from the various volumes of the “Statistical Tables Relating to Banks in India” covering the period from 2001-2010 which was published by the Statistical Department of Reserve Bank of India, Mumbai. The concepts and definitions of certain variables were gathered from the Report on “Trend and Progress of Banks in India” various issues covering the period from 2001-2010 which were published by the Statistical Department of RBI, Mumbai, RBI Bulletins (Monthly), Bombay Stock Exchange Official Directory and So on.

4. Statistical tools used for Analysis - Correlation analysis

Correlation analysis is employed which attempts to study the relationship that exists between two variables. The correlation co-efficient of the selected independent variables with the bank profitability has been worked out in order to identify the most important variable, which have higher association with the dependent variable. Also, the correlation co-efficient among the different variables has been worked out so as to arrive at a correlation matrix, which incorporates correlation co-efficient of all the selected variable with the dependent variable, as well as correlation coefficients among different independent variables. The test of significance has also been applied in order to identify the variables, which have significant correlation. The following factors / variables have been adopted in the multivariate technique. For our analysis the variable Y is dependent variable and the variables X\(_1\) to X\(_{26}\) are independent variables.

| Variable | Description |
|----------|-------------|
| Y        | Return on total assets |
| X\(_1\)  | Advances to Assets |
| X\(_2\)  | Debt - Equity Ratio |
| X\(_3\)  | Investments to Total Assets |
| X\(_4\)  | Other Assets to Total Assets |
| X\(_5\)  | Credit Deposit Ratio |
| X\(_6\)  | Investments Deposit Ratio |
| X\(_7\)  | Credit + Investments Deposit Ratio |
| X\(_8\)  | Fixed Assets to Total Assets |
| X\(_9\)  | Return on Advances |
| X\(_{10}\)| Interest Income to Total Assets |
| X\(_{11}\)| Other Liabilities to Total Assets |
| X\(_{12}\)| Return on Networth |
| X\(_{13}\)| Operating Expenses to Total Income |
| X\(_{14}\)| Interest Expended to Total Expenses |
| X\(_{15}\)| Interest expended to interest earned |
| X\(_{16}\)| Spread to Working Fund |
| X\(_{17}\)| Burden to Working Fund |
| X\(_{18}\)| Interest Income to Total Income |
| X\(_{19}\)| Non-Interest Income to Working Fund |
| X\(_{20}\)| Non Operating Expenses to Total Assets |
| X\(_{21}\)| Deposits to Total Assets |
| X\(_{22}\)| Liquid Assets to Total Assets |
| X\(_{23}\)| Provision & Contingencies to Total Assets |
| X\(_{24}\)| Cash Deposit Ratio |
| X\(_{25}\)| Investments to Advances |
| X\(_{26}\)| Interest cover |

Table no.1 List of selected Financial Variables

Out of the above-denoted factors, the variable Y is dependent variable and the variables X\(_1\) to X\(_{26}\) are independent variable

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Table 2: Correlation analysis between selected variables with return on total assets of banks

| S.NO. | ICICI r | p-value | HDFC r | p-value | UBI r | p-value | OBC r | p-value |
|-------|---------|---------|--------|---------|-------|---------|-------|---------|
| X1    | .387    | .134    | -.183  | .307    | .395  | .129    | -.522 | .061    |
| X2    | -.487   | .077    | -.702  | .012*   | .241  | .251    | -.056 | .439    |
| X3    | -.226   | .265    | -.933  | .000**  | -.040 | .456    | .530  | .057    |
| X4    | .487    | .077    | -.748  | .006**  | -.699 | .012*   | .134  | .356    |
| X5    | -.438   | .102    | .990   | .000**  | .376  | .142    | -.501 | .070    |
| X6    | -.638   | .023    | -.905  | .000**  | .027  | .471    | .560  | .046*   |
| X7    | -.565   | .044*   | .448   | .097    | .600  | .033*   | .024  | .473    |
| X8    | -.591   | .036*   | -.024  | .474    | .433  | .105    | -.244 | .248    |
| X9    | .883    | .000**  | -.960  | .000**  | .925  | .000**  | .968  | .000**  |
| X10   | .774    | .004**  | .045   | .451    | -.530 | .057    | .073  | .421    |
| X11   | .487    | .077    | -.748  | .006**  | -.699 | .012*   | .134  | .356    |
| X12   | .710    | .011*   | -.580  | .039*   | .975  | .000**  | .940  | .000**  |
| X13   | -.682   | .015*   | .035   | .462    | .330  | .176    | -.029 | .468    |
| X14   | .181    | .308    | -.817  | .002**  | .137  | .353    | -.793 | .003**  |
| X15   | .224    | .267    | -.731  | .008**  | -.019 | .479    | -.854 | .001**  |
| X16   | .603    | .032*   | .815   | .002**  | -.479 | .081    | .815  | .002**  |
| X17   | -.584   | .038*   | .728   | .009**  | -.511 | .066    | -.220 | .271    |
| X18   | -.429   | .108    | -.675  | .016**  | -.790 | .003**  | -.822 | .002**  |
| X19   | .869    | .001**  | .725   | .009**  | .592  | .036*   | .713  | .010**  |
| X20   | .701    | .012*   | .065   | .429    | -.491 | .075    | -.226 | .265    |
| X21   | .348    | .162    | .263   | .231    | -.321 | .183    | .126  | .365    |
| X22   | -.546   | .051    | -.576  | .041*   | -.761 | .005**  | -.225 | .266    |
| X23   | .566    | .044*   | .867   | .001**  | -.026 | .472    | .552  | .049*   |
| X24   | .387    | .135    | .196   | .294    | -.252 | .242    | .056  | .439    |
| X25   | -.316   | .187    | -.991  | .000**  | -.223 | .268    | .469  | .086    |
| X26   | .447    | .098    | .376   | .142    | .910  | .000**  | .915  | .000**  |
The correlation coefficient matrices of the selected variables with the dependent variable, i.e., return on total assets of selected Banking sector for the periods from 2000-01 to 2009-10. It can seen by table ICICI bank that seven variables namely X9, X10, X12, X16, X19, X20 and X23, have significant positive correlation with Return on total assets and the coefficient are 0.883, 0.774, 0.710, 0.603, 0.869, 0.701 and 0.566 respectively and remaining four variables namely X7, X8, X13 and X17, has significant but negative correlation with return on total assets and the coefficient are -0.565, -0.591, -0.682 and -0.584.

It can seen by the above table HDFC bank that five variables namely X5, X16, X17, X19 and X23 have significant positive correlation with Return on total assets and the coefficient are 0.990, 0.815, 0.728 and 0.867 respectively and remaining twelve variables namely X2, X3, X4, X6, X9, X11, X12, X14, X15, X18, X22 and X25 has significant but negative correlation with return on total assets and the coefficient are -0.702, -0.933, -0.748, -0.905, -0.960, -0.748, -0.580, -0.817, -0.731, -0.675, -0.576 and -0.991.

In Union bank of India, it can seen by table that five variables namely X7, X9, X12, X19 and X26 has significant positive correlation with Return on total assets and the coefficient are 0.6, 0.925, 0.975, 0.592 and 0.910 respectively and remaining four variables namely X4, X11, X18, and X22 has significant but negative correlation with return on total assets and the coefficient are -0.699, -0.699, -0.79, and -0.761.

Table 3: Correlation analysis between selected Variables with return on total assets of banks

| S.NO. | SBI | BOI | BOB | PNB |
|-------|-----|-----|-----|-----|
|       | r   | p-value | r   | p-value | r   | p-value | r   | p-value |
| X1    | .004 | .496 | .290 | .208 | .241 | .251 | .652 | .020* |
| X2    | .443 | .100 | -.410 | .119 | .196 | .294 | .553 | .049* |
| X3    | -.242 | .250 | -.253 | .240 | -.116 | .375 | -.498 | .072 |
| X4    | -.142 | .348 | -.293 | .205 | -.455 | .093 | -.835 | .001** |
| X5    | .513 | .065 | .289 | .209 | .218 | .273 | .703 | .012* |
| X6    | -.265 | .229 | -.241 | .251 | .103 | .389 | -.427 | .109 |
| X7    | .820 | .002** | .142 | .347 | .689 | .014* | .803 | .003** |
| X8    | -.626 | .026* | .425 | .110 | .380 | .139 | .654 | .020* |
| X9    | .285 | .212 | .983 | .000** | .820 | .002** | .633 | .025** |
| X10   | -.688 | .014* | -.021 | .477 | -.400 | .126 | -.602 | .033* |
| X11   | -.142 | .348 | -.293 | .205 | -.455 | .093 | -.835 | .001** |
| X12   | .531 | .057 | .926 | .000** | .968 | .000** | .558 | .047* |
| X13   | .601 | .033* | -.453 | .094 | -.138 | .352 | .013 | .486 |
| X14   | -.382 | .138 | .237 | .255 | .032 | .465 | -.018 | .481 |
| X15   | -.433 | .106 | -.091 | .401 | .029 | .468 | -.229 | .263 |
| X16   | -.052 | .444 | .114 | .377 | -.372 | .145 | -.396 | .129 |
| X17   | -.191 | .298 | -.774 | .004** | -.755 | .006** | -.554 | .048* |
| X18   | -.745 | .007** | .518 | .062 | -.745 | .007** | -.339 | .169 |
| X19   | .412 | .118 | .460 | .091 | .552 | .049* | .048 | .447 |
| X20   | -.602 | .033* | -.104 | .387 | -.390 | .132 | -.606 | .032* |
| X21   | .002 | .498 | -.190 | .300 | .191 | .299 | -.610 | .031* |
| X22   | -.878 | .000** | -.027 | .471 | -.743 | .007** | -.196 | .294 |
| X23   | .203 | .287 | -.187 | .303 | -.216 | .275 | -.310 | .192 |
| X24   | -.190 | .300 | -.197 | .293 | -.316 | .187 | -.161 | .329 |
| X25   | -.429 | .108 | -.243 | .249 | .054 | .441 | -.556 | .047* |
| X26   | .909 | .000** | .959 | .000** | .861 | .001** | .801 | .003** |

**Correlation is significant at the 0.01 level (p<0.01)  *Correlation is significant at the 0.05 level (p<0.05)
It can be seen from the above table of the Oriental bank of commerce, that eight variables namely X6, X9, X5, X16, X10, X19, X23 and X26 have significant positive correlation with Return on total assets and the coefficient are 0.560, 0.968, 0.940, 0.815, 0.713, 0.552 and 0.915 respectively. Remaining four variables namely X1, X14, X15 and X18 have significant but negative correlation with return on total assets and the coefficient are -0.522, -0.793, -0.854, and -0.822.

In State bank of India, it can be seen from the table that four variables namely X1, X7, X13, and X26 have significant positive correlation with return on total assets and the coefficient are 0.004, 0.820, 0.621, 0.909 respectively. Remaining five variables namely X8, X10, X18, X20, and X22 have significant but negative correlation with return on total assets and the coefficient are -0.626, -0.688, -0.745, -0.602, and -0.878.

It can be seen from the above table of Bank of India, that three variables namely X9, X12, and X26 have significant positive correlation with return on total assets and the coefficient are 0.983, 0.926, and 0.959 respectively. Remaining one variable namely X17 has significant but negative correlation with return on total assets and the coefficient are -0.774.

It can be seen from the above table of Bank of Baroda, that five variables namely X7, X9, X12, X19, and X26 have significant positive correlation with bank profitability and the coefficient are 0.689, 0.820, 0.968, 0.552, and 0.861 respectively. Remaining three variables namely X17, X18, and X22 have significant but negative correlation with profitability and the coefficient are -0.755, -0.745, and -0.743.

In Punjab National bank, it can be seen from the table that eight variables namely X1, X2, X5, X7, X8, X9, X12, and X26 have significant positive correlation with Return on total assets and the coefficient are 0.625, 0.553, 0.703, 0.803, 0.654, 0.633, 0.558, and 0.801 respectively. Remaining seven variables namely X4, X10, X11, X17, X20, X21, and X25 have significant but negative correlation with return on total assets and the coefficient are -0.835, -0.602, -0.835, -0.554, -0.606, -0.610, and -0.556 respectively.

5. Conclusion

The financial intermediation provided by the banking sector supports economic acceleration by converting deposits into productive investments. In the last few decades, advances in technologies have allowed the banking sector to compete globally. The correlation analysis proved that there is a significant relationship among the selected variables and return on total assets of the banking industry in both positive and negative ways. The observations also found that the variables which are positive in nature will directly improve the profitability of the industry whereas the negative correlation indicates that the bankers need more concentration for those ratios for improving profitability in future.

References

Amandeep (1993), “Profit and Profitability in Commercial Banks” Deep and Deep Publications, New Delhi.

Atikoğullari, M. (2009), “An Analysis of the Northern Cyprus Banking Sector in the Post – 2001 Period Through the CAMELS Approach”, International Research Journal of Finance and Economics, Vol. 32, pp. 212 – 229.

Bennaceur, S. and M. Goaied, (2008), “The Determinants of Commercial Bank Interest Margin and Profitability: Evidence from Tunisia”, Frontiers in Finance and Economics, vol.5 , No.1, pp. 106 – 130.

Bolda B.S. and R. Verma (2007), “Determinants of Profitability of Banks in India: A Multivariate Analysis”, Journal of Services Research, Vol.6, No.2, pp.75-89.

Chen, T.Y. (2002), “Measuring Operation, Market and Financial Efficiency in the Management of Taiwan’s Bank”, Services Market Quarterly, Vol.24, No.2, pp. 15-22.

Chen, Y. and C. Lin (2007), “Empirical study on the efficiency analysis of Australian banks”, Banks and Bank Systems, Vol.2, No.4, pp.38 – 49.

Demirgüç-Kunt, A. and H. Huizinga. (1998), “Determinants of Commercial Bank Inter-est Margins and Profitability: Some International Evidence”, World Bank Policy Research Working Paper, No. 1918.
Ganesan, P. (1998), “A study of Priority Sector Advances vis-à-vis profits and profitability of Public Sector Banks in India”, Ph.D. Thesis, Bharathiar University, Coimbatore.
Halkos, G. E. and D.S. Salamouris. (2004), “Efficiency measurement of the Greek commercial banks with the use of financial ratios: a data envelopment analysis approach”, Management Accounting Research, Vol. 15, pp. 201-224.
Ketkar, K.W. and S. L. Ketkar (2008), “Performance and Profitability of Indian Banks in the Post Liberalization Period”, The 2008 World Congress on National Accounts and Economic Performance Measures for Nations, May 13 - 17, 2008, Washington DC.
Kosmidou, K. (2008) “The determinants of banks' profits in Greece during the period of EU financial integration”, Managerial Finance, Vol. 34, No.3, pp.146 – 159.
Manoj P K., (2010), "Determinants of Profitability and Efficiency of Old Private Sector Banks in India with Focus on Banks in Kerala State.” International Research Journal of Finance and Economics, Vol. 47
Ramlall, I. (2009), “Bank-Specific, Industry-Specific and Macroeconomic Determinants of Profitability in Taiwanese Banking System: Under Panel Data Estimation”, International Research Journal of Finance and Economics, Vlo.34, pp. 160-167.
Raut K.C. and Das, S.K. (1996), “Commercial Banks in India – Profitability, Growth and Development”, Krishna Publishers Distributors, Darya Ganj, New Delhi.
Sufian, F. (2009), “Factors influencing bank profitability in a developing economy: Empirical Evidence from Malaysia”, Global Business Review, Vol.10, No.2, pp. 225-241.
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, Vol. 3, pp. 101- 112.
Thamkirati, S. (1996), “A Study on the Relationships among the effects of Banking Deregulation, Asset Management ratios, and Profitability of the Banking Industry in Thailand”, Degree DCA, United States International University, 1995-1996.