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FINANCIAL PERFORMANCE OF BANKS OF BRICS - A COMPARATIVE STUDY

Dr. Jeelan Basha.V

M.Com. M.Phil., Ph.D., ACMA Asst. Professor in P.G. Department of Studies in Commerce SSA Government First Grade (autonomous) College and P.G. center, Ballari - 583101, Ballari (Dist) Karnataka, India

ABSTRACT

Banks have an important role to play in the economic development of any nation. The financial performance of a bank indicates its profitability which is an important indicator of the efficiency of banks. In this paper an attempt has been made to study the financial performance of banks of Brazil, Russia, India, China and South Africa (BRICS), which are the emerging economies of the world. The financial performance of these banks will have a greater impact on the world economy. Their financial performance is measured using two selected financial ratios namely Return on Equity (ROE) and Return on Total Assets (ROTA). The effective and efficient utilisation of equity share capital in particular and total assets in general will pave the way for analysing sound and healthy symptoms of banks in turn leading to economic progress of those countries.

Data is collected covering fourteen ten years from 2001-02 to 2014-15. This is a secondary data sourcing not only from World Bank but also from other journals and magazines. This is tabulated and analyzed using descriptive and inferential statistics and tools used are compound annual growth rate (CAGR) coefficient of variation (C.V.), coefficient of correlation and covariance. E-views 7.1 version is used for securing output. The primary objective of the study is to analyse the profitability of the BRICS banks. The objectives of the research are to analyse financial performance of BRICS banks using ROE and ROTA and to know the findings from the analysis. It is concluded that India has the most consistency among BRICS banks with respect to average annual ROE and ROTA. There are compound annual declines Rates of not more than 2% each in ROE and ROTA during the study period of BRICS banks. ROE of Banks of BRICS are same both by parametric and non-parametric test and not by ROTA at 5% level of significance.

KEYWORDS :

Introduction:

Banking system is the backbone of county's economy and it is an important precondition for economic development and financial stability of the nation. A bank is an institution dealing with money and credit. Thus, bank is an intermediary which functions for the benefit of the investors as well as the benefit of the bank itself. A large part of money supply is controlled by the banks. The financial performance of these banks will have a greater impact on the world economy. The progress of these economies will contribute towards world economy in terms of GDP growth rate.

Their financial performance is measured using two selected financial ratios namely Return on Equity (ROE) and Return on Total Assets (ROTA). The effective and efficient utilisation of equity share capital in particular and total assets in general will pave the way for analysing sound and healthy symptoms of banks in turn lead to economic progress of those countries. Hence, an attempt has been made to study on "Comparative Study of Financial Performance of BRICS Banks"

Significance of Study:

The study is significant for the fact that it is carried out to find the determinants of financial performance using profitability ratios in general and ROE and ROTA in particular of BRICS banks.

The present paper primarily focus on the findings and analysis of profit margin ratios for the BRICS banks with special reference to Return on Equity and Return on Total assets . The study will be able to shed light on the growth of the Indian banks and results would help to know about the India in BRICS where it stands therein. Financial Performance of Commercial banks are normally evaluated for several reasons with specific objectives. Financial performance analysis is also mandate for banks, as entities like bank regulators can caution the banks that experience chronic financial problems and ensure proper and effective functioning. It is imperative for the share holders to know the financial performance of banks to initiate individual financial investments. Unsurprisingly, commercial banks evaluate their financial performance for specific periods, in order to determine the efficacy and long term viability of management decisions through which they can alter the course and make changes whenever it is appropriate.

Literature Review:

1. Sapp (1978) investigated the relationship between long-range planning and bank performance. The purpose of this study was to examine the extent of long-range planning by commercial banks and to study the relationship between such planning efforts and bank performance. Eight testable hypotheses were derived from the general hypothesis that banks, which engage in long-range planning, will perform better than banks that do not. The analysis of variance procedure (ANOVA) was used to determine the significance of the variance in the performance measure that could be "explained" by the levels of long range planning. Dani Jose and Sonal Purohit/ African international journal of research in management /(2016)17-28 19
2. Mukhergee (2003), the presence of large NPAs in the SCBs can affect a bank's profit in a number of ways namely through reduced interest income, and through the creation of reserves and provisions at the expense of profits. This decline in profit has a bearing on variables like the capital adequacy ratio (CAR). When profit decline, it becomes difficult for the banks to raise Tier-I capital and hence the capital base is affected. In the face of declining profit, in order to maintain the stipulated CAR, the bank may have to raise Tier-II capital through bond-issues. The interest cost then will be higher, pushing the cost ratio of the bank up and thereby resulting in a further shrinkage of profit. Thus the presence of large NPAs may lead to a vicious circle, making the financial health of a bank deteriorate over time.
3. Aman and Zaman (2009) owned banks in Pakistan and found that the private sector banks were performing better with regards to the credit risk compared to the state owned banks. The study by analyzing studied the credit risk performance of private and state data for a fifteen year period from 1990 to 2005 reported that the private sector banks were efficient in managing their credit risk and suggested that the public sector banks need to improve their efficiency of credit risk management.
4. Ali and Daly (2010) investigated the interaction between the cyclical implications of loan defaults (credit risk) in an economy and the capital stock of a bank. The approach used a macroeconomic credit model that through a comparative analysis of two countries, namely Australia (a relatively immune economy from the recent crisis) and the United States of America (the worst affected economy from the recent crisis). The results indicated that the same set of macroeconomic variables display different default rates for the two counties. Additionally the study finds that compared to Australia, the US economy is much more susceptible to adverse macroeconomic shocks.
5. Anupam Mehta (2012) stated that prior to the outbreak of recent global economic crisis, the banking sector of UAE had enjoyed double digit growth, but the global crisis restricted the massive growth of UAE banks. This paper contributed to emerging body of research by examining the financial performance indicators of the

banks and identifying whether the financial performance indicators of UAE banks have been impacted by the Global economic crisis. This paper studies all banks listed on Abu Dhabi Stock Exchange. The study also covered a period of 2005 to 2010, which has been classified into pre-crisis, crisis and post crisis period. The performances of the banks have been measured by financial ratios including Leverage, Liquidity and Profitability ratios of UAE banks have been calculated and analyzed to draw interpretations. The results of the study concluded that the recent global crisis has impacted the UAE bank's financial performance especially the profitability measured by Return on Assets and Return on Equity. All profitability ratios of bank have decreased during the crisis period. Liquidity of banks has also decreased during the crisis period especially in terms of cash & portfolio Investments to deposits. On the contrary the Leverage ratios of UAE's baking sector have increased during the crisis period as compared to the pre crisis period.

6. Manoj (2013) did an empirical study on the determinants of profitability and efficiency of Old Private Sector Banks in India with a focus on banks in Karnataka State and reported that the banks in Karnataka had shown enhanced profitability, operational efficiency and risk management capability, particularly credit risk management. The study also found that non-interest income was a significant determinant of the profitability of old private sector banks in Karnataka.
7. Mukdad Ibrahim (2014) analyzed the financial performance of two UAE based banks between the years 2004 and 2009. Quantitative analysis was undertaken by looking at various sets of ratios that are routinely used to measure bank performance. Conclusions were then drawn from the computation of the relevant ratios that allowed the author to make an effective comparison of said banks. The main ratios that were employed put a particular focus on the banks liquidity, profitability, and management
8. Dani Jose and Sonal Purohit/ African international journal of research in management /(2016)17-28 20 capacity, capital structure and share performance as reliable indicators of a bank performance. Subsequently, each bank performance was then ranked via the use of descriptive statistical analysis. The analysis summarized the performance of each bank based on two criteria, dispersion and the overall stability of each banks performance. The findings showed that both banks performed reasonably well during the period of study. Liquidity levels were lower for the commercial bank of Dubai, while the national bank of Abu Dhabi benefitted by having an overall higher degree of profitability. The commercial bank of Dubai took better control of its operations when compared with the national bank of Abu Dhabi. Among its other superior qualities was a strong and highly resilient capital structure. Calculation of the four ratios of share performance clearly showed that the national bank of Abu Dhabi is largely better off financially than the commercial bank of Dubai.
9. Mukdad Ibrahim (2015) conducted a study to compare the financial performance of two UAE based Islamic and conventional banks between the years 2002 and 2006. Quantitative analysis was undertaken by looking at various sets of financial ratios that are routinely used to measure bank performance. The main ratios that were employed were liquidity, profitability, management capacity, capital structure and share performance as reliable indicators of a bank performance. Descriptive statistical analysis was used by the researcher to rank the performance, measuring the dispersion and the stability-variability of the indicators. The research also measured the financial stability of the two banks. Subsequently, each bank's performance was then ranked via the use of descriptive statistical analysis and summarized the performance of each bank based on three criteria, mean, coefficient of variation and the overall stability of each banks performance. The findings showed that both banks performed reasonably well during the period studied. While the bank of Sharjah benefitted by having an overall higher degree of liquidity, profitability, management capacity and capital structure, Dubai Islamic bank was better off in relation to share indicators performance and in terms of overall stability.

Objectives of the Study:

The primary objective of the study is to analyse the profitability of the BRICS banks. The following are the specific objectives of the research:

1. To analyse financial performance of BRICS banks using ROE and ROTA and
2. To know the findings from the analysis.

Hypotheses:

H1: There are no significant differences among the BRICS banks
H2: There are equal variances among the BRICS banks\

Assumptions:

1. The data is randomly selected;
2. Data is normally distributed; and
3. They are independent

Research Methodology:

Secondary data was collected for the study fourteen years covering from 2001-02 to 2014-15. This is a secondary data which was sourced not only from World Bank but also from published journals and magazines. This was tabulated and analyzed using descriptive and inferential statistics and tools used are compound annual growth rate (CAGR) coefficient of variation (C.V.), coefficient of correlation and covariance. E-views 7.1 version is used for securing output.

Analysis and Interpretation:

Table-1: Descriptive Statistics of ROE of BRICS Banks

Descriptive Statistics	BROE (%)	CROE (%)	IROE (%)	RROE (%)	SROE(%)
Mean	13.816	15.403	15.815	10.462	16.624
Median	13.729	15.470	15.544	8.494	15.762
Maximum	26.620	22.758	24.544	23.058	31.030
Minimum	3.602	7.442	10.597	3.332	0.704
Std. Dev.	6.942	4.795	3.566	5.442	8.980
Skewness	0.076	-0.237	0.895	0.915	-0.053
Kurtosis	2.072	1.962	3.942	3.067	2.148
Jarque-Bera	0.516	0.760	2.385	1.957	0.430
Probability	0.773	0.684	0.303	0.376	0.807
Sum	193.417	215.647	221.407	146.468	232.734
Sum Sq. Dev.	626.490	298.894	165.296	385.019	1048.289
Observations	14.000	14.000	14.000	14.000	14.000
C.V	0.502	0.311	0.225	0.520	0.540
CAGR	-0.971	-0.872	-0.926	-0.883	-0.783

Source: Output from E-views 7.1 version

Table -1 depicts that average annual mean of ROE of banks in South Africa stands top among the BRICS banks during the period under study. It is followed by 15.815% of India, 15.403% of China, 13.816% of Brazil and 10.462% of USSR. There is a negative CAGR or compound annual decline rate throughout the BRICS banks ranging from maximum of 21.7% to minimum of 2.9%. India has the most consistency/stability of 0.225 followed by China, Brazil, USSR and South Africa. The means of Brazil, India, USSR and South Africa except China are greater than those of medians. Hence, they are right skewed meaning that they are some unusually high values. Kurtosis of BRICs banks ROE are leptokurtic distribution reflecting that higher concentration of values near the mean of the distribution compared to a normal distribution.

Table-2: Associations of BRICS Banks based on ROE

	BROE	CROE	IROE	RROE	SROE
BROE	1	-0.014	0.532	0.246	0.281
CROE	-0.014	1	0.086	0.313	0.474
IROE	0.532	0.086	1	0.069	0.371
RROE	0.246	0.313	0.069	1	0.617
SROE	0.281	0.474	0.371	0.617	1

Source: Output from E-views 7.1 version

Table-2 shows that there is positive association among ROE of all the BRICS banks except Brazil and China. There is higher degree of positive relationship between South Africa and USSR and Brazil and India.

Table-3: Descriptive Statistics of ROTA of BRICS Banks

Descriptive Statistics	BROTA	CROTA	IROTA	RROTA	SROTA
Mean	1.376	0.843	0.972	1.577	1.077
Median	1.418	0.889	0.988	1.355	1.127
Maximum	2.560	1.392	1.316	3.392	1.725
Minimum	0.335	0.328	0.530	0.392	0.116
Std. Dev.	0.693	0.372	0.193	0.779	0.441
Skewness	-0.037	-0.043	-0.698	0.815	-0.465
Kurtosis	1.914	1.465	3.537	3.206	2.810
Jarque-Bera	0.692	1.379	1.305	1.575	0.527
Probability	0.708	0.502	0.521	0.455	0.769
Sum	19.263	11.799	13.602	22.080	15.078
Sum Sq. Dev.	6.248	1.796	0.485	7.888	2.527
Observations	14	14	14	14	14
C.V	0.504	0.441	0.199	0.494	0.409
CAGR	-0.982	-0.934	-0.942	-0.944	-0.921

Source: Output from E-views 7.1 version

It is reflected from table-3 that USSR has secured the first rank in terms of average annual mean of ROTA of 1.577% followed/ succeeded by 1.376% of Brazil, 1.077%of South Africa, 0.972% of India and 0.843% of China over the study period. It is followed by 15.815% of India, 15.403% of China, 13.816%. There is a negative CAGR or compound annual decline rate throughout the BRICS banks more or less 1%. India has the most consistency/stability of 0.199 followed by the rest far away from it. The means of Brazil, India, China and South Africa except USSR are lesser than those of medians. Hence, they are left skewed meaning that they are some unusually low values. Kurtosis of BRICs banks ROE are leptokurtic distribution reflecting that higher concentration of values near the mean of the distribution compared to a normal distribution.

Table-4: Associations of BRICS Banks based on ROTA

	BROTA	CROTA	IROTA	RROTA	SROTA
BROA	1		0.216	0.464	0.139
CROA	-0.213	1	0.287	-0.193	0.314
IROA	0.216	0.287	1	0.016	0.442
RROA	0.464	-0.193	0.016	1	0.399
SROA	0.139	0.314	0.442	0.399	1

Source: Output from E-views 7.1 version

Table-4 discloses that ROTA of China banks has slightly negative correlation with those of Russia and Brazil. Rest of the BRICs Banks' ROTA have lower degree of positive relation.

Table-5: Parametric and Non-parametric Tests of ROTA of BRICS Banks

Test for Equality of Means of ROE Between Series			
Method	df	Value	Probability
Anova F-test	(4, 65)	2.145	0.0851
Welch F-test*	(4, 31.7633)	2.588	0.0556
Test for Equality of Medians of ROE Between Series			
Method	df	Value	Probability
Med. Chi-square	4	7.429	0.115
Adj. Med. Chi-square	4	4.929	0.295
Kruskal-Wallis	4	7.920	0.095
Kruskal-Wallis (tie-adj.)	4	7.920	0.095
van der Waerden	4	7.225	0.125
Test for Equality of Variances of ROE Between Series			
Method	df	Value	Probability
Bartlett	4	12.166	0.016
Levene	(4, 65)	3.038	0.023
Brown-Forsyth	(4, 65)	2.490	0.052

Source: Output from E-views 7.1 version

The result shows from table-5 that there is strong indication that ROE of Banks of BRICS are not significant difference by both standard ANOVA and WELCH adjusted ANOVA statistics which are with probabilities are more than 0.05. On testing Leven robust and Bartlett test of equality variance, it is found that their prob. values are less than 0.05. Thus, null hypotheses of equal variance among ROE of BRICS banks are rejected.

Some of the assumptions of parametric test are not satisfied, non-parametric test of Med. Chi-square, Adj. Med. Chi-square, Kruskal-Wallis, Kruskal-Wallis (tie-adj.) and van der Waerden statistics are used whose probability values are more than 0.05. Hence, null hypotheses of insignificant difference are accepted. The alternative hypotheses of significant differences among ROE of BRICS banks are rejected since their prob. values are more than 0.05 at 95% confidence level.

Table-6: Parametric and Non-parametric Tests of ROTA of BRICS Banks

Test for Equality of Means of ROTA Between Series			
Method	df	Value	Probability
Anova F-test	(4, 65)	4.363	0.004
Welch F-test*	(4, 30.2594)	3.523	0.018
Test for Equality of Medians of ROTA Between Series			
Method	df	Value	Probability
Med. Chi-square	4	9.714	0.046
Kruskal-Wallis	4	11.588	0.021
Kruskal-Wallis (tie-adj.)	4	11.588	0.021
van der Waerden	4	11.782	0.019
Test for Equality of Variances of ROTA Between Series			
Method	df	Value	Probability
Bartlett	4	24.904	0.000
Levene	(4, 65)	6.513	0.000
Brown-Forsythe	(4, 65)	4.385	0.003

Source: Output from E-views 7.1 version

The result shows from table-6 that ROTA of Banks of BRICS are not same by both standard ANOVA and WELCH adjusted ANOVA statistics since their probabilities are less than 0.05. On testing Leven robust and Bartlett test of equality variance, it is found that their prob. values are less than 0.05. Thus null hypotheses of equal variance among ROTA of BRICS banks are rejected.

Some of the assumptions of parametric test are not satisfied, non-parametric test of Med. Chi-square, Kruskal-Wallis, Kruskal-Wallis (tie-adj.) and van der Waerden statistics are used whose probability values are less than 0.05. Hence, null hypotheses of insignificant difference are rejected. The alternative hypotheses of significant differences among ROTA of BRICS banks are accepted since their prob. values are less than 0.05 at 95% confidence level.

Conclusions:

In a nut shell, it is understood that India has the most consistency among BRICS banks with respect to average annual ROE and ROTA. There are compound annual declines Rates of not more than 2% each in ROE and ROTA during the study period of BRICS banks. There is positive association among ROE of all the BRICS banks except Brazil and China. ROTA of all the BRICS banks has positive relation except correlation of China banks with those of Russia and Brazil.

ROE of Banks of BRICS are same by both parametric tests of standard ANOVA and WELCH adjusted ANOVA statistics and non-parametric test of Med. Chi-square, Adj. Med. Chi-square, Kruskal-Wallis, Kruskal-Wallis (tie-adj.) and van der Waerden statistics at 5% level of significance. ROTA of Banks of BRICS are not same by both the parametric and the non-parametric statistics at 5% level of significance.

Appendix-1

Year	BROE	CROE	IROE	RROE	SROE	BROTA	CROTA	IROTA	RROTA	SROTA
2001	9.406	7.442	10.959	5.649	5.570	0.955	0.427	0.530	0.966	0.578
2002	18.724	7.755	14.926	5.874	6.031	1.945	0.328	0.725	2.230	0.663
2003	20.058	11.954	20.660	6.716	0.704	2.042	0.409	1.035	1.372	0.116
2004	17.341	14.811	24.544	7.008	31.030	1.742	0.469	1.316	1.309	1.725
2005	17.109	14.232	17.099	23.058	26.400	1.674	0.480	0.979	3.392	1.498
2006	21.782	19.188	15.927	17.439	28.034	2.159	1.070	0.980	2.490	1.629

Source : World Bank

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