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Trends and Growth of Banking Sector in India

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ABSTRACT

Banks are the major segment of the financial sector in India, Reforms measures are primarily aimed at improving the performance of the Banking sector. Liberalization and Globalization in banks provided a new perspective to reforms in Indian financial sector. These forces have transformed the structure of financial sector. Banks have been undergoing major changes and transformation after the post liberalization period as it is evident from the various efficiency parameters including Total Deposits, Number of Employees, total Income, Total Asset, Net Interest Margin, Number of Branches, Priority sector Advances to Total Advances and Total Advances. In the present study, an attempt has been made to compare the performance of Nationalized Banks, State Bank Group, Public sector bank, old private sector banks, New private sector bank group and foreign bank group, for this purpose CAGR were computed. The general growth of performance of the commercial banks can be analyzed more meaningfully and objectively for a given period in time by comparing their growth patterns over the period.

1. Introduction

The Indian Banking sector has been witnessing tremendous changes after the introduction of financial sector reforms. The commercial banks in India have shed their traditional functions now and have been innovating, improving and coming out with new types of customer services to cater to their emerging needs in a more efficient manner. The earlier focused approach of massive branch expansion, mobilization of savings and diversification of credit facilities, export motivational schemes and technology driven services have resulted in widening and deepening of the financial infrastructure in the country. There has been considerable innovation and diversification in the business of major commercial banks in India.

The foundation for banking sector growth and resilience was laid with the introduction of the financial sector reforms as early as 1991, when M Narsimhan made the path breaking recommendations with focus on increased competition and prudential regulations. The reforms had a major impact on the overall efficiency and stability of the banking system. The financial performance and efficiency of Indian banks improved dramatically with increased competition between public sector banks and new generation technology oriented private banks. This could be observed in the profitability, net interest margins, return on assets and return on equities. The capital positions improved significantly and the banks were able to bring down their NPAs sharply. The reforms phase also revealed increased use of technology which in turn helped improved customer service

1. Review of literature

There are many existing studies that used CAGR to measure the banking trends. **Bilgrami (2000):** attempted to stated that in the post reform period, gradual lowering of interest rate has been responsible for decline growth rates of banks. **Souza (2002):** in his study evaluated the performance of public sector banks, private sector banks and foreign banks during the period 1990-1991 to 1999-2000. The efficiency of the banking system was measured in terms of spread/ working fund ratio and turnover/ employees ratio. **Gupta, Doshit & Chinubhai (2008):** analyzed the performance of the Indian banking sector, measured and compared in two stages: Through the construct of productive efficiency using the non-parametric frontier methodology, DEA and finding the determinants of productive efficiency through TOBIT model. Inputs and outputs are measured in monetary value and efficiency scores determined for the period 1999-2003. The study shows that SBI and its group have the highest efficiency, followed by private banks, and the other nationalized banks. The results are consistent over the period, but efficiency differences diminish over period of time. The capital adequacy ratio is found to have a significantly positive impact on the productive efficiency. **Khanna (2009):** undertaken a study with the aim of, to know weather trade liberalization and reforms positively impacted the growth of employee or not. The findings says that the share of which has gone up from 55.8 percent to 64.8 percent of GDP during 2009. Therefore it is considered that to promote higher economic growth and to provide a stable economy, the financial system of developing countries must function effectively and provide the full range of financial services. **Nandy (2010)** in his study stated that the development of banks were witnessed only in the field of expansion and spread of bank branches, generation of huge employment and mobilization of savings rather than improvement in the efficiency that counts a lot. Besides corruption, fraud, misutilization in public money, outdated technology were found to be major drawback in the real progress of banks. **Dhanabhakyam** and **Kavitha (2012)** stated that the Indian banking system faces several difficult challenges. The selected public sector banks have performed well on the sources of growth rate and financial efficiency during the study period. The old private sector banks and new private sector banks play a vital role in marketing of new type of deposits and advances schemes. **Kedia (2016):** in his study

with the objectives of, to know the determinants of profitability of Indian public sector banks, which reveals four independent variable that affect the net profit. i.e Non performing assets, credit deposit ratio, Net Interest Income and operating expenses. The study was based on multiple regression analysis to analyze the impact of determinants on the profitability of the banks. It was concluded that credit deposit ratio and net interest income affect the net profitability of Indian public sector banks in major way. **Gajera (2016):** attempted to compare the financial performance of public and private banks and identified the various factors responsible for better financial performance of public sector banks and private sector banks. For analyzing financial performance of banks data of last 12 years was collected i.e 2002-2013. In this study, only quantitative aspect has been taken into consideration for analyzing financial performance of banks, while qualitative aspect was ignored in this study. **Nataraja & Rao (2018):** aimed to analyze the performance of three major private sector banks listed on Bombay stock exchange and national stock exchange. Financial ratios are used for analysis. Three indicators namely returns on assets, tobin Q model and return on equity are used to measure the financial performance of banks. Multiple regression analysis is used for analyzing the data. It was concluded that selected ratios have impact on financial performance of the banks.

2. Objective

The objective of the study are:

- To explore the trends and development of selected groups of banking sector in India
- To analyze the Financial Performance of Banking sector in India.

3. Research methodology

The growth pattern and developments of the banks have been analyzed by adopting the six major bank groups for the financial period 1992-2017, namely;

(1) Nationalised banks (2) State Bank Group (3) Public sector banks (4) Old Private Sector Banks (5) New Private Sector Banks (6) Foreign Banks

For this purpose, Secondary data has been collected from published and unpublished records of Government Departments RBI Bulletin, Annual Reports of RBI, Handbook of Statistics on the Indian Economy, Banking Statistics - Basic Statistical Returns, Report on Trend and Progress of Banking in India. The study will be exploratory in nature.

Tools of Analysis

For accomplishing the research objective, following statistical tools have been worked out.

(1) Compound Annual Growth Rate
(2) Bivariate correlation Analysis
(3) Linear Regression Analysis

4. Results and Analysis

The present study examines the trends and growth in various bank groups. The study has been divided in to two periods. Period one (1992-2004), phase one of Liberalization. The foundation of entire banking is strengthened as high growth in economy should be taken place after the implementation of first and second banking reforms in 1991 and 1998 respectively. Period 2 (2005-2017), second phase of Liberalization as major downfall in the market took place and recessionary phase are also come in this period. The CAGR of different parameters for various bank groups are computed below:

Table 1
Bank Group wise CAGR for different variables during Phase one of Liberalization (1992-2004) and second Phase of Liberalization (2005-2017)

Variables	Period	SCBs	NBs	SBG	PSBs	OPSBs	NPSBs	FBs
Total Deposit	1992-2004	17.28	15.81	16.07	16.14	16.59	37.6	14.95
	2005-2017	15.76	15.21	15.58	15.62	15.17	21.69	13.04
No. of Employees	1992-2004	-0.437	-2.115	-1.48	-1.42	-0.56	38.37	-0.92
	2005-2017	4.46	2.46	1.12	1.42	-0.56	20.44	4.65
Total Income	1992-2004	15.15	13.61	12.71	13.6	14.5	36.48	13.97
	2005-2017	16.44	17.2	14.49	15.89	14.5	24.26	11.95
Total assets	1992-2004	16.91	15.26	14.63	15.37	15.95	38.12	16.73
	2005-2017	16.01	16.58	14.58	15.97	15.95	22.45	13.67
Net Interest Margin	1992-2004	17.85	15.4	13.87	14.76	17.73	45.72	21.11
	2005-2017	20.89	13.39	13.24	12.88	17.73	21.62	8.87
No. of branches	1992-2004	2.19	1.54	0.001	0.0004	0.003	31.56	0.09
	2005-2017	4.78	4.18	4.11	4.03	2.46	9.11	5.13
Priority Sector Advances to Total Advances	1992-2004	0.12	0.68	1.04	0.27	0.94	0.25	6.1
	2005-2017	-0.85	-2	-2.4	-0.99	2.18	0.27	0.59
Total Advances	1992-2004	19.69	13.95	17.22	18.34	18.38	41.67	17.98
	2005-2017	18.57	19.13	17.62	18.24	18.33	24.58	13.31

Note: SCBs = scheduled commercial banks, SBG = State Bank Group, NB = Nationalized Banks, PSBs = Public sector Banks, OPSB = Old Private Sector Banks, NPSB = New Private sector Bank, FB = Foreign Bank.

Source Statistical tables relating to Banks in India, Published by Reserve Bank of India (various issues)
Database on Indian Banking Published by IBA, Mumbai
Report on trends and progress of Banking Sector In India. (various issues)

Figure 1

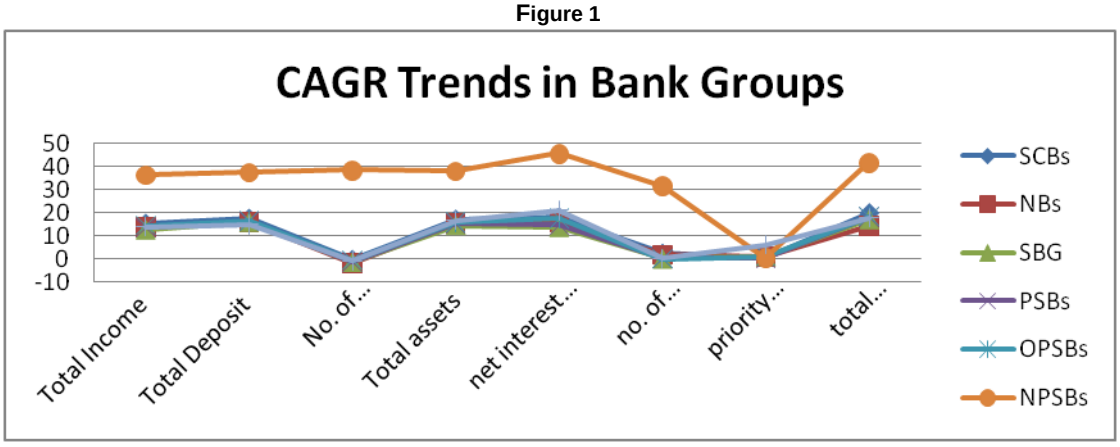

Figure shows the CAGR trends in various Bank Groups. Figure shows the drastic change in the CAGR trends in various bank groups for different variables. It is evident from the figure that New private sector banks recorded highest growth as compared to other bank groups. Nationalized banks and State bank group are at lowest point. But in case of priority sector advance to total advances , new private sector banks shows declining trend. But, Foreign banks recorded highest growth in case of priority sector advances to total advances. Figure also reveals that number of employees is higher in new private sector banks as compared to other bank groups registered lowest growth in number of employees. Net interest income is highest in case of new private sector banks followed by foreign banks. State bank group having lowest CAGR in Net interest Income as compared to other bank groups. In nutshell, we can say that new private sector banks performed better as compared to other bank groups followed by foreign banks.

Table 2
Bivariate Correlation Matrix between different variables during first phase of Liberalization of banks (1992-2004)

	Total deposits	No. of employees	Total income	Total assets	Net interest income	Number of branches	Priority sector advance to net advances	Total advances
Total deposits	1							
No. of employee	.997**	1						
Total income	.996**	.998**	1					
Total assets	.993**	.997**	.999**	1				
Net interest income	.967**	.981**	.984**	.990**	1			
Number of branches	.997**	.996**	.997**	.995**	.974**	1		
Priority sector advances to net advances	-.293	-.221	-.231	-.187	-.061	-.252	1	
Total advances	.985**	.987**	.987**	.987**	.973**	.977**	-.216	1

Sources: same as per table 4.1 **Note**: * correlation is significant at 0.01**. Correlation is significant at the 0.05 level (2-tailed).

The Bi-variate correlation analysis has been exhibited in table. In the first phase of Liberalization period, there is highly correlation between the variables total deposits and no. of employees followed by total Income, total assets, Net interest income, No. of Branches and total advances, but, priority sector advances to net advance shows negative correlation. The result of correlation between these indicators shows that there exists a high degree of positive correlation between these indicators for out of selected variables. The study had shown significant association as high as above 0.80. it also reveals that 21 values are highly correlated and significant at 0.01 level two tailed test. Only seven values shows negative relationship and insignificant in two- tailed test.

Table 3
Correlation Matrix between different variables during second phase of Liberalization of banks (2005-2017)

	Total Deposits	No. of Employees	Total Income	Total Assets	Net Interest Income	No. of Branches	Priority Sector Advances to Net Advances	Total Advances
Total Deposits	1							
No. of Employees	.865*	1						
Total Income	.965**	.852*	1					
Total Assets	.966**	.872*	.982**	1				
Net Interest Income	.731	.525	.713	.716	1			
No. of Branches	.802*	.980**	.794*	.791*	.409	1		
Priority sector advances to Net Advances	.046	.144	-.033	.148	.231	.001	1	
Total Advances	.947**	.706	.962**	.945**	.787*	.619	-.020	1

Source same as per table 4.1
note*. Correlation is significant at the 0.01 level (2-tailed).
****.** Correlation is significant at the 0.05 level (2-tailed).

The Bi-variate correlation analysis has been exhibited in table. In the second phase of Liberalization period, there is highly correlation between the variables total deposits and total assets followed by total Income, total advances, no. of branches and net interest income. but, priority sector advances to net advance shows very less correlation. The study had shown significant association as high as above 0.80. it also reveals that 7 values are highly correlated and significant at 0.01 level two tailed test and six values are also highly correlated and significant at 0.05 level two tailed test.

Linear Regression of Total income with different variables

The basis for linear regression is to estimate the effect of independent variables (X) to the dependent variable (Y). the force of the impact, determine the regression coefficients Beta, also determining which independent variables have the greatest and the smallest effect on the dispersion of the dependent variables. In other words, how much of the variance of the dependent variable is explained by selected independent variables.

Regression coefficients

The unstandardized coefficients are the coefficients of the estimated regression model. Often the independent variable are measure in different units. The standardized coefficient of betas are an attempt to make the regression coefficients more comparable. Beta coefficients is the standardized regression coefficient, which allow comparison of the relatives on the dependent variable of each variable in the model.

R Square is the proportion of variation in the dependent variable explained by regression model. The values of R Square range from 0 to 1. small values indicates that model does not fit the data well. The sample R Square tends to optimistically estimate how well the model fit the population. R Square indicates which model is best. Choose a model with a high value of R Square indicates that model fits in the data very efficiently.

The Durbin Watson statistic is a number that tests for autocorrelation in the residuals from a statistical regression analysis. The Durbin Watson test always lies between 0 and 4. A value greater than 2 indicates a negative correlation between variables whereas a value below 2 indicates a positive correlation. it shows that positive serial correlation among the variables

The following variables are considered for the purpose of conducting a linear regression;

Y = Total Income
X_1 = Total Deposits
X_2 = Number of Employees
X_3 = total assets
X_4 = Net Interest Income
X_5 = Number of Branches
X_6 = Priority sector Advances to total Advances
X_7 = Total Advances

Table 4
Linear regression of Total Income with different Variables (1992-2004)

Variable	Unstandardized Beta Coefficients	Standardized Beta Coefficients	R Square	R	Durbin Watson
X_1	1.048***	.996	.993***	.996	1.1999
X_2	.571***	.998	.996***	.998	1.552

X_3	1.009***	.999	.998***	.999	1.150
X_4	.752***	.984	.968***	.984	1.353
X_5	.728***	.997	.994***	.997	1.397
X_6	-.92	-.231	.053**	.231	1.804
X7	.911***	.987	.973***	.987	2.634

Source; same as per table 1
Note;*significant at o.o1 percent level of significance
*significant at 0.05 level of significance
*significant at .10 level of significance

Table shows the regression results for the period of first phase of Liberalization. Table shows the regression results R square is 0.993 for total deposits, which is a significant value. It shows that 99.3 percent of the growth in total income of banks is explained by total deposits. The regression results indicate that all the variables are positively related to Total Income while Priority sector advances to total advances is negatively related to Total Income. The regression line has given a good fit to the observed data. Thus total deposit has positive and significant relationship with total income., the value of Durbin Watson is 1.199 which is less than 2 indicates a positive correlation.

Table also shows the regression results R square is .996 for number of employees, which is a significant value. It shows that 99.6 percent of the growth in total income is explained by Number of employees. The regression line has given a good fit to the observed data. The number of employees has positive and significant relationship with total income. The Durbin Watson statistic value for number of employees lies 1.552 which is less than 2 shows a positive correlation.

Table shows the regression results R Square is .998 for total assets, which is a significant value. It shows that 99.8 percent of the growth in Total Income is explained by Total Deposits. The regression line has given a good fit to the observed data. The Total Assets has positive and significant relationship with total Income. The Durbin Watson statistic value for total assets lies 1.150 which is less than 2 shows a positive correlation

Table shows the regression results R Square is .968 for Net Interest Margin, which is a significant value. It shows that 96.8 percent of the growth in Total Income is explained by Net Interes5 Margin. The regression line has given a good fit to the observed data. The Net Interest Margin has positive and significant relationship with total income. The Durbin Watson statistic value for total assets lies 1.353 which is less than 2 shows a positive correlation.

Table shows the regression results R Square is .994 for Number of Branches, which is a significant value. It shows that 99.4 percent of the growth in Total Income is explained by Number of Branches. The regression line has given a good fit to the observed data. The Number of Branches has positive and significant relationship with total income. The Durbin Watson statistic value for Number of Branches lies 1.397 which is less than 2 shows a positive correlation.

Table shows the regression results R Square is .053 for Priority sector advances total advances , which is a significant value at 5 percent level of significance. It shows that only 5.3 percent of the growth in Total Income is explained by Priority sector Advances to total Advances. The Priority sector Advances to total Advances has negative and insignificant relationship with total Income. The Durbin Watson statistic value for Priority sector Advances to total Advances lies 1.804 which is less than 2 shows a positive correlation.

Table shows the regression results R Square is .973 for Total Advances, which is a significant value. It shows that 97.3 percent of the growth in Total Income is explained by Total Advances. The regression line has given a good fit to the observed data. The Total Advances has positive and significant relationship with total income. The Durbin Watson statistic value for Total Advances lies 2.634 which is greater than 2 shows a negative correlation.

Table 5
Linear regression with total income of different variables (2005-2017)

Variable	Unstandardized Beta coefficients	Standardized Beta coefficients	R Square	R	Durbin Watson
X_1	1.397***	.965***	.931***	.965	2.531
X_2	.463***	.852***	.725***	.852	1.352
X_3	1.344***	.982***	.964***	.982	1.051
X_4	.588***	.713***	.508***	.713	3.018
X_5	1.487***	.794***	.631***	.794	1.617
X_6	-.081	-.033	.001*	.033**	2.842
X7	1.128***	.962***	.925***	.962	1.660

Source; same as per table 1
Note;*significant at o.o1 percent level of significance
*significant at 0.05 level of significance
*significant at .10 level of significance

Table shows the regression results for the period of second phase of Liberalisation. Table shows the regression results R square is 0.931 for total deposits, which is a significant value. It shows that 93.1 percent of the growth in total income of banks is explained by total deposits. The regression results indicate that all the variables are positively related to Total Income while Priority sector advances to total advances is negatively related to Total Income. The regression line has given a good fit to the observed data Thus total deposit has positive and significant relationship with total income. The Durbin Watson statistic is a number that tests for autocorrelation in the residuals from a statistical regression analysis. The Durbin Watson test always lies between 0 and 4. A value greater than 2 indicates a negative correlation between variables whereas a value below 2 indicates a positive correlation. it shows that positive serial correlation among the variables. For total deposits, the value of Durbin Watson is 2.531 which is greater than 2 indicates a negative correlation.

Table also shows the regression results R square is .725 for number of employees, which is a significant value. It shows that 72.5 percent of the growth in total income is explained by Number of employees. The regression line has given a good fit to the observed data.. The number of employees has positive and significant relationship with total income. The Durbin Watson statistic value for number of employees lies 1.352 which is less than 2 shows a positive correlation.

Table shows the regression results R Square is .964 for total assets, which is a significant value. It shows that 96.4 percent of the growth in Total Income is explained by Total Deposits The regression line has given a good fit to the observed data. The Total Assets has positive and significant relationship with total income. The Durbin Watson statistic value for total assets lies 1.051 which is less than 2 shows a positive correlation

Table shows the regression results R Square is .508 for Net Interest Margin, which is a significant value. It shows that 50.8 percent of the growth in Total Income is explained by Net Interest Income. The regression line has given a good fit to the observed. The Net Interest Margin has positive and significant relationship with total income. The Durbin Watson statistic value for total assets lies 3.018 which is greater than 2 shows a negative correlation.

Table shows the regression results R Square is .631 for Number of Branches, which is a significant value. It shows that 63.1 percent of the growth in Total Income is explained by Number of Branches. The regression line has given a good fit to the observed data. The Number of Branches has positive and significant relationship with total income. The Durbin Watson statistic value for Number of Branches lies 1.617 which is less than 2 shows a positive correlation.

Table shows the regression results R Square is .001 for , which is a significant value at 2 percent level of significance. It shows that only 1 percent of the growth in Total Income is explained by Priority sector Advances to total Advances. The Priority sector Advances to total Advances has negative and insignificant relationship with total Income. The Durbin Watson statistic value for Priority sector Advances to total Advances lies 2.842 which is greater than 2 shows a negative correlation.

Table shows the regression results R Square is .925 for Total Advances, which is a significant value. It shows that 92.5 percent of the growth in Total Income is explained by Total Advances. The regression line has given a good fit to the observed data The Total Advances has positive and significant relationship with total income. The Durbin Watson statistic value for Total Advances lies 1.660 which is less than 2 shows a positive correlation.

5. Conclusion

In nutshell, the whole analysis suggested that new private sector banks performed better than foreign banks and public sector banks in the first phase of Liberalization with respect to most of the parameters. However, in the second phase of liberalization growth rate of new private sector banks is declined due to improved performance of other bank groups. The Entry of various foreign banks is the main reason for the rate of growth for new private sector banks narrowed down. It may be concluded that banking sector have created a competitive environment and new private sector banks and foreign banks results in improved performance over public sector banks and Nationalized banks. It also reveals that in the first phase of Liberalization, there was a significant transformation in the banking sector

Total income is falling down in case of new private sector banks and foreign bank group in second phase of liberalization as compared to the first phase of liberalization. The reason behind that banking sector faces crisis over that period leads to declining in the total income of these bank groups. Number of employees registered a decline CAGR in case of New Private sector Banks. While analyzing the growth of total assets all the selected groups except Nationalized Banks shows less improvement in second phase of liberalization. Net interest margin declined in case of new private sector banks and foreign banks in the second phase of Liberalization. Overall the performance of selected bank groups shows better improvement in first phase of liberalization as compared to the second phase of Liberalization. CRAR of foreign banks is better than that of new private sector banks and public sector banks. However, various government measures to enable public sector banks maintain a minimum capital. It also reveals that Non performing assets in new private sector banks is higher as compared to other bank groups followed by public sector banks. Asset quality of public sector banks is poor as compared to other bank groups

The financial performance has been measured using regression as total income is dependent variable and total deposits, number of employees, total assets, net interest income, number of branches, priority sector advances to total advances and total advances are independent variables. It is found that all the variables are positively related to Total Income while Priority sector advances to total advances is negatively related to Total Income. Many studies have been

also proven that there is negative relation between total income and various efficiency parameters.. In overall, we can say that public sector banks and Nationalized banks need more improvement on their efficiency level. The Banking sector need to be a well defined framework which will lead the banks towards growth and progression.

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