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Analysis of Productivity Efficiency of RRBs: A Comparative Study of Pre and Post Amalgamation of KVGB & PGB

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ABSTRACT

The health of the economy is closely related to the soundness of its banking system. The banking sector influences the economic growth and development in terms of both quality and quantity, there by changing the nature of economic growth. Assessment of the bank's performance in terms of earnings level may reveal more about government policy than about the bank's own efficiency. The indicators commonly used for assessing productivity of banks are Business per employee/Branch, advances per employee/Branch, number of accounts per employee/branch etc. the results obtained by different factors need not be the same and may often be contradictory. Employee productivity performance analysis is a popular technique for the appraisal of financial performance of a bank. It simply means the total resources invested and the profits generated on the investment per employee of the bank. For a bank, its employees are the most valuable corporate asset. Therefore, it is necessary to evaluate profitability of a bank in terms of its employee's productivity. The present paper therefore is an attempt to compares the parameters of employees' productivity and parameters of branch productivity. This study investigated the effects of amalgamation on the financial performance of Regional Rural banks in India. The research compared the pre-merger and post merger financial performance of KVGB and PGB which were amalgamated during 2005. The results indicate that the productivity ratios that have marginally improved after the amalgamation.Both findings suggest ways in which the bank can increase the profitability of its branch network.

Introduction

The health of the economy is closely related to the soundness of its banking system. A well-organized and efficient banking system is an essential pre-requisite for overall economic growth of country. Banks play an important role in the functioning of organized money market and also act as a conduit for mobilizing funds and channelizing them for productive purposes. The banking sector influences the economic growth and development in terms of both quality and quantity, there by changing the nature of economic growth. The Indian Banking industry, which is governed by the Banking Regulation Act of India, 1949 can be broadly classified into two major categories, non-scheduled banks and scheduled banks. Scheduled banks comprise commercial banks and the co-operative banks. In terms of ownership, commercial banks can be further grouped into nationalized banks, the State Bank of India and its group banks, regional rural banks and private sector banks. Assessment of the bank's performance in terms of earnings level may reveal more about government policy than about the bank's own efficiency. The banks, acting as financial intermediaries, mobilize savings of the society and supplement their resources through borrowings for providing credit to the needy sectors. They have to pay interest on their deposits and borrowings. They have to pay salaries to their staff and incur other overhead expenses in the course of their business operations. They are also required to make provisions for any potential erosion in their assets. After all this, they may have to pay a reasonable divided to their shareholders. The banks will, therefore, have to earn profit.

Concept of Productivity in Banking

The term 'productive efficiency' is commonly used to describe the level of performance of a production unit in terms of its utilization of input resources in generating outputs. However, productivity and efficiency are two distinctive terms. The productivity of a production unit is defined as the ratio of the outputs that it produces to the inputs that it uses. When the productivity is measured using all factors of production, a measure of overall productivity referred to as the total factor productivity is obtained. The efficiency or the growth of a bank can be measured through various measures like deposits, advances, working funds, incomes, expenditures, profits, assets, number of accounts and branches etc. The role of employees is also of great significance as each and every activity of a bank is directly related to the attitude, motivation and work culture of the employees. Therefore, the parameters, which are used to measure the efficiency of banks, should also include the performance of employees.

For achieving the operational efficiency, meeting customer expectations and other parameters of banks' performance, the role of employees and their efficient utilization cannot be undermined. The productivity of employees is crucial for the overall efficiency of the banks. Employee Productivity measures the productivity capacity of the employees of the bank. In other words, it measures how much each employee contributes to total operating income.The indicators commonly used for assessing productivity of banks are Business per employee/Branch, advances per employee/Branch, number of accounts per

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employee/branch etc. the results obtained by different factors need not be the same and may often be contradictory. Employee productivity performance analysis is a popular technique for the appraisal of financial performance of a bank. It simply means the total resources invested and the profits generated on the investment per employee of the bank. For a bank, its employees are the most valuable corporate asset. Therefore, it is necessary to evaluate profitability of a bank in terms of its employee's productivity. The present chapter therefore compares the parameters of employees' productivity and parameters of branch productivity.

Regional Rural Banks in India:

The institution of Regional Rural Banks (RRBs) was created to meet the excess demand for institutional credit in the rural areas, particularly among the economically and socially marginalised sections. The thrust of the reforms was on increasing operational efficiency, strengthening supervision over banks, creating competitive conditions and developing technological and institutional infrastructure. These measures led to the improvement in the financial health, soundness and efficiency of the banking system. Although the cooperative banks and the commercial banks had reasonable records in terms of geographical coverage and disbursement of credit, in terms of population groups the cooperative banks were dominated by the rural rich, while the commercial banks had a clear urban bias. Within the Indian financial sector, the role of the rural banks is important but not apparently pre-eminent. Among the various factors responsible for economic development and poverty alleviation, the role of financial institutions in general and RRBs in particular is considered very significant. Rural sector is an important segment of the Indian economy. It influences the pace of development in the rest of the economy. The RRBs were established "with a view to developing the rural economy by providing, for the purpose of development of agriculture, trade, commerce, industry and other productive activities in the rural areas, credit and other facilities, particularly to small and marginal farmers, agricultural labourers, artisans and small entrepreneurs, and for matters connected therewith and incidental thereto"

Amalgamation of RRBs:

The consolidation of the RRBs was first suggested by the Working Group to Suggest Amendments to the RRBs Act, 1976.The group had suggested that while retaining the regional character of these institutions, the number of sponsor banks may be reduced. Subsequently, the Advisory Committee on Flow of Credit to Agriculture and related Activities (Vyas Committee) had suggested in 2004 that in the first stage, all RRBs of a sponsor bank in a State should be amalgamated into a single unit in that State and at the second stage in the process of amalgamation there should be a State-level consolidation of RRBs. Subsequently, the Internal Working Group on RRBs, constituted by the RBI (Sardesai Committee) in June 2005, also suggested two options for strengthening RRBs, namely, merger between RRBs of the same sponsor bank in the same State or the merger of RRBs sponsored by different banks in the same state. Accordingly, the structural consolidation of RRBs initiated by GoI in September 2005 through amalgamation of Sponsor Bank-wise RRBs in a State, continued and four new amalgamated entities were formed in 2009-10, by amalgamating five stand-alone and three previously amalgamated RRBs. With this, the total number of RRBs as on 31 March 2010 stood at 82 (46 amalgamated and 36 stand alone).

Rationale for this study:

Rural sector is an important segment of the Indian economy. It influences the pace of development in the rest of the economy. Among the various factors responsible for economic development and poverty alleviation, the role of financial institutions in general and RRBs in particular is considered very significant. The objectives of reforms were to strengthen the Indian banks, make them internationally competitive and encourage them to play an effective role in accelerating the process of growth. The reforms process also initiated measures for improving the productivity, efficiency and profitability of the banking system. Productivity is a vital indicator of economic performance. In simple words, it is output-input ratio. It is a relationship between given output and the means used to produce it. Banking is primarily service industry. There are number of indicators to measure the productivity of banking sector. Measures of productivity at bank or industry level may differ from the indicators of productivity at branch level.Productivity is generally defined in terms of the efficiency improvement and technical change with which inputs are transformed into outputs in the production process (Coelli et al., 1998). In manufacturing organizations the value added or net output is taken as the output measure. In the service sector it is difficult to quantify the output because it is intangible. Hence, different proxy indicators are used for measuring productivity of service organizations.

Sample units:

Karnataka is the 8^{th} largest State in the Country. It comprises of 30 Districts and 176 Talukas. The rural population in Karnataka is around 248 lakhs, which forms about 66% of the total population of the State. Karnataka has a good banking network system which is spread in all districts and in the rural areas. There are 27 public sector banks, over 16 private sector banks besides 6 Regional Rural Banks operating in the State. 65% of the total banking business turnover in the State is concentrated in 7 major banks having lead responsibilities in the State. The present study aims to evaluate financial performance of Regional Rural Bank in India in general and in Karnataka in particular comparing their performance during pre and post amalgamation period. For evaluating financial efficiency of RRBs, the study has selected Karnataka Vikas Grameen Bank Dharwad (KVGB) and Pragathi Grameen Bank Bellary (PGB).

Review of Literature:

The major objectives of the financial liberalization were to improve the overall performance of the Indian financial sector and to make the financial institutions more competent and more efficient. The issue of impact of mergers on the efficiency of banks has been well studied in the literature. Most of the literature related with the impact of mergers on the efficiency of banks is found in European Countries and US. In India, literature on bank merger is very scarce. Berger and Humphrey (1997) The study revealed that viability of RRBs was essentially dependent upon the fund management strategy, margin between resources mobility and their deployment and on the control exercised on current and future costs with advances. The proportion of the establishment costs to total cost and expansion of branches were the critical factors, which affected their viability. DeLong, 2001; Houston *et al.*, (2001). argue that bank mergers could improve economies of scale and cost reduction when they share information, transaction system and monitoring costs.Van Rooij, (1997). observed that the economies of scale of merged banks could be achieved since they can reduce the average cost by expanding the volume of similar banking products. Therefore, when the economies of scale argument hold, then the greater the benefits received by the merged banks. Shyamji Agarwal (2000) in his article entitled 'Mergers and Acquisition of Commercial Banks in Indian Context' attempted to examine trends of bank consolidation and assessed their relevance in the Indian context. The paper made certain specific analysis of banking institutions in India, which provides useful inputs in the restructuring process. Further the paper discussed a wide range of perspectives and analytical inputs, which facilitate the policy formulation on bank restructuring.

Statement of Problem:

A review of the literature reveals that there is a yawning gap between various studies so far conducted. The majority of studies concentrated on either credit aspect or on personnel management part. A few of the studies on financial analysis selected only one RRB. No attempt so far has been made to compare more than one RRB sponsored by different banks and also no attempt has so far been made to relate the performance of one RRB with another RRB comparing their performance during pre and post amalgamation period in terms of productivity. Such a comparison would throw a light on relative profitability & Productivity between RRBs after their amalgamation. Therefore the RRBs needs to be evaluated on financial front by comparing its productivity performance during its Pre and Post amalgamation period. Therefore, the present study concentrates to x-ray the performance of selected RRBs in Karnataka State. Hence, the statement of problem is Analysis of Productivity Efficiency of RRBs : A Comparative Study of Pre and Post Amalgamation .

Objectives of the Study:

Recently due to rapid growth of financial market and financial innovations, it has become more important to measure the financial efficiency in terms of profitability and productivity in the financial institutions. In the light of the amalgamation of RRBs in India the main purpose of this study is to investigate the operating efficiency of RRBs in general and sample RRBs in particular so as to analyze the changes in profitability by comparing between pre and post amalgamation period. Therefore the study is an attempt to diagnose the financial health of operating performance of selected RRBs in terms in Karnataka state. In order to achieve this broad objective the following workable objectives have been set.

1. To trace the growth and development of RRBs in India in general and Karnataka state in particular
2. To investigate the impact of amalgamation on the productivity efficiency
3. To offer useful suggestions to improve the overall working of the sample units in particular and RRBs in general.

Methodology:

In consonance with the objectives the present study is diagnostic and exploratory in nature and makes use of secondary data. In order to achieve this broad objective, apart from financial ratios, other statistical tools like Mean, SD and CV will also be applied to examine and to compare the impact of different variable on the financial efficiency of the sample units. Further t-test will also be used to measure their significance and consistency of different variable according to their characteristics. The data so composed out of the financial statements in the Annual Reports of the sample units will be properly tabulated to achieve the objectives set. For evaluating financial efficiency of RRBs the study has selected Karnataka Vikas Grameen Bank Dharwad (KVGB) which is sponsored by the Syndicate Bank and Pragathi Grameen Bank Bellary (PGB) & is sponsored by the Canara Bank in Karnataka State. The study has covered 16 districts constituting more than 50% geographical area of the Karnataka State.

Paired t-test for Difference of Means :

The t-test assesses whether the means of two groups are *statistically* different from each other. This analysis is appropriate whenever you want to compare the means of two groups. In the t-test for difference of means, the two samples were independent of each other. Let us now take a particular situation where

(i) The sample sizes are equal, i.e., n1=n2=n, (say), and

(ii) The sample observations $(x_1,x_2, ...x_n)$ and $(y_1,y_2,......y_n)$ correspond to the 1st, 2nd,....nth unit respectively.

Under the null hypothesis that the increments are just by chance and not due to amalgamation, i.e., H_0: $\mu_{x} = \mu_{y}$, the test statistic is

$$t = \frac{\bar{d} \quad \mu}{S/\sqrt{n}} = \frac{\bar{d}\sqrt{n} \quad \mu}{S} \qquad t_{(n-1)} \text{ d.f.} \sim$$

$$t = \frac{\bar{d}}{S/\sqrt{n}} = \frac{\bar{d}\sqrt{n}}{S} \qquad \text{.....................................} \text{ (i)}$$

Where d = x – y, $\bar{d} = \frac{1}{n}\sum d$ and

$$S^2 = \frac{1}{n-1}\sum (d-\bar{d})^2 = \frac{1}{n-1}\left[\sum d^2 - \frac{(\sum d)^2}{n}\right] \text{........ (ii)}$$

Null Hypothesis, H_0: $\mu_{x} = \mu_{y}$ i.e., mean scores before the amalgamation and after the amalgamation are same. In other words there is no significant change in after amalgamation.

Hypothesis:

In order to fulfil one of the objective of the study, following hypothesis has been formulated.

- Null Hypothesis: There is no change in the profitability of sample RRBs after the amalgamation
- Alternative Hypothesis: There is a change in the profitability of sample RRBs after the amalgamation

Analysis and Interpretation of Data :

In order to analyse the performance of sample RRBs in terms of productivity ratios have been identified and also calculated. Deposit per Employee, Advances per Employee, Total Income per employee, Total expenditure per employee, Net profit per employee: Spread per employee ,Business per employee, Burden per employee, Deposits per branch, Advances per branch, Total Income per branch, Total expenditure per branch, Net profit per branch, Interest Spread per branch, Business per branch, Burden per branch

1. Deposits per Employee:

Mobilisation of deposit is one of the main functions of banking business and an important source of working fund for the bank.The size of the deposits determines the funds available for profitable deployment.This ratio has been computed by dividing the amount oftotal deposits by the number of employees in the bank. The information relating to Deposit per employee is given below.

$$\text{Per Employee Deposits} = \frac{\text{Deposits}}{\text{No. of Employees}} X100$$

Table -1
Per Employee Deposits

Rs. in crores

KVGB				PGB			
Year	**Pre**	**Year**	**Post**	**Year**	**Pre**	**Year**	**Post**
2001	0.46	2006	0.90	2001	0.40	2006	0.84
2002	0.51	2007	1.02	2002	0.45	2007	1.03
2003	0.57	2008	1.28	2003	0.48	2008	1.32
2004	0.64	2009	1.61	2004	0.63	2009	1.57
2005	0.77	2010	1.93	2005	0.69	2010	2.04
Mean	0.59	Mean	1.35	Mean	0.53	Mean	1.36
SD	0.11	SD	0.38	SD	0.11	SD	0.42
CV	18.41	CV	28.21	CV	20.83	CV	31.00
t-test	-5.56			t-test	-5.26		

Source : Computed From Annual Report

The perusal of table-1 reveals that productivity of sample RRBs in terms of deposit per employees has significantly improved. The average deposit per employee of KVGB has increased from Rs. 0.59 crore to Rs. 1.35 crore and in case of PGB it has improved from Rs. 0.50 crore to Rs.1.36crore during pre and post amalgamation period respectively. The table also reveals that the trend of deposit shown increasing even in pre amalgamation and also post amalgamation period i.e from Rs 0.46 crores to Rs 0.77 crores and from Rs 0.90 crores to Rs 1.35 crores in case of KVGB and from Rs 0.40 crores to Rs 0.69 crores and from Rs 0.84 crores to Rs 2.04 crores in case of PGB during the period under studyThe t-test also shows significant improvement at 1% level.

2. Advances per Employee:

Granting advances is the main function of the banks on which the income of bank depends.An advance is a credit facility provided by a bank to its customers. Advances are the important earning assets for the bank. The interest and fees earned on advances is a significant measure of management's ability to price its loan and to achieve an optimum loan mix. This ratio has been constructed with a view to examine per employee quantity of loans & advances. The information relating to Advances per employee is given in Table 2

$$\text{Per Employee Advances} = \frac{\text{Total Advances}}{\text{No. of Employees}} X100$$

Table -2
Per Employee Advances

Rs. in crores

KVGB				PGB			
Year	**Pre**	**Year**	**Post**	**Year**	**Pre**	**Year**	**Post**
2001	0.37	2006	0.80	2001	0.31	2006	0.80
2002	0.41	2007	0.97	2002	0.39	2007	1.02
2003	0.46	2008	1.14	2003	0.46	2008	1.24
2004	0.52	2009	1.17	2004	0.50	2009	1.31
2005	0.69	2010	1.29	2005	0.63	2010	1.67
Mean	0.49	Mean	1.07	Mean	0.46	Mean	1.21
SD	0.11	SD	0.17	SD	0.11	SD	0.29
CV	22.50	CV	15.98	CV	23.43	CV	24.26
t-test	-13.46			t-test	-8.06		

Source : Computed From Annual Report

Table -2 gives a detailed picture of per employee advances of sample RRBs. As advances are the main instrument to earn the profits and same has increased from Rs. 0.49 crores to Rs. 1.07 crores in case of KVGB, for PGB from Rs. 0.46 crores to Rs. 1.21 crores, for the period of study. The table also reveals that the trend of advances shown increase from Rs 0.37 crores to Rs 0.69 crores and from Rs 0.80 crores to Rs 1.29 crores in case of KVGB during period under study. Whereas this has increase from Rs 0.31 crores to Rs 0.63 crores and from Rs 0.80 crores to Rs 1.67 crores in case of PGB during same period. The t-test has also shows significant improvement at 1%

3. Total Income per employee:

Operating income is the income that comes from a bank’s ongoing operations. Most of a bank’s operating income is generated by interest on its assets, particularly loans. Interest income fluctuates with the level of interest rates, and so its percentage of operating income is highest when interest rates are at peak levels.

Although net income gives us an idea of how well a bank is doing, it suffers from one major drawback: It does not adjust for the bank’s size, thus making it hard to compare how well one bank is doing relative to another. Therefore in order to measure the productivity efficiency Total income per employee has been calculated. .

$$\text{Per Employee Total Income} = \frac{\text{Total Income}}{\text{No. of Employees}} X100$$

The information relating to Total income per employee is given in Table .3

Table -3
Per Employee Total Income

Rs. in crores

KVGB				PGB			
Year	**Pre**	**Year**	**Post**	**Year**	**Pre**	**Year**	**Post**
2001	0.08	2006	0.07	2001	0.07	2006	0.06
2002	0.09	2007	0.14	2002	0.08	2007	0.12
2003	0.09	2008	0.16	2003	0.08	2008	0.15
2004	0.11	2009	0.16	2004	0.09	2009	0.16
2005	0.12	2010	0.19	2005	0.10	2010	0.22
Mean	0.10	Mean	0.14	Mean	0.08	Mean	0.14
SD	0.01	SD	0.04	SD	0.01	SD	0.05
CV	15.00	CV	30.22	CV	14.69	CV	36.97
t-test	3.15			t-test	-2.87		

Source: Computed From Annual Report

The perusal of table -3 reflects the productivity of the sample RRBs in terms of total income per employees. The average total income earned by each employee of sample RRB was Rs. 0.10crores and has marginally increased to Rs. 0.14crores in case of KVGB during pre and post period.For PGB, it has increased from Rs. 0.03 crore to Rs. 0.08crore during the same period.

The table also reveals that the trend of income ishown increasing fromRs 0.08 crores to Rs 0.12 crores and from Rs 0.07c rores to 0.19 croe in case of KVGB and from Rs 0.02 crore to Rs 0.04 crore and from Rs 0.05 to Rs 0.15 crore in case of PGB during pre- amalgamation and post amalgamation period.The improvement is statistically significant at 1% level.

4. Total expenditure per employee:

This ratio is a measure of total expenses per employee. Lower the total expenses ratio per employee higher the financial efficiency of the bank and vice-versa.This ratio has been computed by dividing the amount of total expenditure by the number of employees in the bank.

$$\text{Per Employee Total Expenses} = \frac{\text{Total Expenses}}{\text{No. of Employees}} X100$$

The information relating to total expenses per employee is given in Table .4

Table -4
Total expenditure per employee

(Rs. in crores)

KVGB				PGB			
Year	**Pre**	**Year**	**Post**	**Year**	**Pre**	**Year**	**Post**
2001	0.02	2006	0.05	2001	0.05	2006	0.08
2002	0.03	2007	0.06	2002	0.06	2007	0.09
2003	0.03	2008	0.06	2003	0.07	2008	0.12
2004	0.03	2009	0.06	2004	0.07	2009	0.15
2005	0.04	2010	0.15	2005	0.07	2010	0.19
Mean	0.03	Mean	0.08	Mean	0.07	Mean	0.13
SD	0.01	SD	0.04	SD	0.01	SD	0.04
CV	20.03	CV	49.84	CV	9.80	CV	30.51
t-test	2.78			t-test	3.65		

Source : Computed From Annual Report

Table -4 reveals that the total expenditure per employee of the sample RRBs. The average of expenditure per employee of KVGB has marginally increased from Rs. 0.03 crore to Rs. 0.08 crore and from Rs. 0.07 crore to Rs. 0.13 crore in case of PGB indicating marginally increased in total expenditure per employee of the sample RRB during post amalgamation period. Further, the calculated value of t-test at 4 d.f. at 5% level of significance in case of per Employee Total Expenditure is 2.78 in case of KVGB and 3.65 in case of PGB. Whereas the tabulated value of t test at 4 d.f. at 5% level of significance is 2.132 which is more than the calculated value of both KVGB and PGB indicating there is statistical significance impact of amalgamation on Per Employee Total Expenditure of the banks.

5. Net Profit per Employee:

This ratio is a measure of net profit earned by per employee in a bank. Higher the ratio greater is the productivity and vice versa. This ratio has been computed by dividing the amount of total amount of net profits by the number of employees in the bank. The information relating to net profit earned by per employee is given below.

$$\text{Per Employee Net Profit} = \frac{\text{Net Profit}}{\text{No. of Employees}} X100$$

The perusal of table -5 reveals that net profit per employee of the sample RRBs has marginally improved. Net profit per employee of KVGB has increased from Rs. 0.021 crore to Rs. 0.0276 crores and in case of PGB it has increased from Rs. 0.0126 crore to 0.0239 crore during the period under the study. Marginal increase is statistical significant only in case of PGB than in case of KVGB

Table -5
Per Employee Net Profit

Rs. in crores

KVGB				PGB			
Year	**Pre**	**Year**	**Post**	**Year**	**Pre**	**Year**	**Post**
2001	0.01	2006	0.03	2001	0.01	2006	0.02
2002	0.01	2007	0.03	2002	0.01	2007	0.03
2003	0.02	2008	0.03	2003	0.01	2008	0.02
2004	0.03	2009	0.02	2004	0.01	2009	0.02
2005	0.03	2010	0.03	2005	0.02	2010	0.03
Mean	0.0210	Mean	0.0276	Mean	0.0126	Mean	0.0239
SD	0.0088	SD	0.057	SD	0.0037	SD	0.0039
CV	41.96	CV	20.58	CV	29.15	CV	16.34
t-test	-1.02			t-test	4.46		

Source : Computed From Annual Report

6. Spread per Employee:

The term spread refers to the excess of interest income over interest expense. This ratio measures the spread per employee in a bank. Higher the spread per employee higher is the banks productivity and vice-versa.This ratio has been computed by dividing the amount of total amount of spread by the number of employees in the bank. The information relating to spread per employee is given below.

$$\text{Per Employee Interest Spread} = \frac{\text{Interest Spread}}{\text{No. of Employees}} X100$$

Table -6
Per Employee Interest Spread

Rs. in crores

KVGB				PGB			
Year	**Pre**	**Year**	**Post**	**Year**	**Pre**	**Year**	**Post**
2001	0.03	2006	0.07	2001	0.03	2006	0.06
2002	0.03	2007	0.08	2002	0.03	2007	0.06
2003	0.04	2008	0.08	2003	0.03	2008	0.07
2004	0.05	2009	0.06	2004	0.03	2009	0.06
2005	0.07	2010	0.08	2005	0.04	2010	0.08
Mean	0.04	Mean	0.07	Mean	0.03	Mean	0.07
SD	0.01	SD	0.01	SD	0.01	SD	0.01
CV	28.23	CV	10.26	CV	17.23	CV	12.06
t-test	-4.09			t-test	-19.30		

Source : Computed From Annual Report

The perusal of table -6 depicts that interest spread per employee of sample RRBs.The table reveals that the proportion of per employee spread has increased from Rs 0.04 crore to Rs 0.07 and from Rs 0.03 crore to Rs 0.07 crore in case of KVGB and PGB respectively. The table also reveals that per employee spread has in increasing trend from Rs 0.03 crore to Rs 0.07 crore during pre -amalgamation period in case of KVGB and from Rs 0.03 crore to Rs 0.04 crore in case of PGB during the period under study indicating increased financial efficiency .Both the increases are also statistically significant.

7. Business per employee:

A key achievement of the banking sector reform has been the sharp improvement in the financial health of banks.The total business of the bank should be in a increasing so as to earn more profit out of it. A downward trend in business per employee implies either over staffing in the bank over the period or poor market share of the bank due to competition. This ratio has been computed by dividing the amount of total business by the number of employees in the bank. The information relating to total business per employee is given below.

$$\text{Per Employee Business} = \frac{\text{Total Business}}{\text{No. of Employees}} X100$$

Table -7
Per Employee Business

Rs. in crores

KVGB				PGB			
Year	**Pre**	**Year**	**Post**	**Year**	**Pre**	**Year**	**Post**
2001	0.83	2006	1.70	2001	0.71	2006	1.64
2002	0.92	2007	1.98	2002	0.84	2007	2.05
2003	1.03	2008	2.41	2003	0.98	2008	2.56
2004	1.17	2009	2.78	2004	1.09	2009	2.88
2005	1.45	2010	3.22	2005	1.18	2010	3.71
Mean	1.08	Mean	2.42	Mean	0.96	Mean	2.57
SD	0.22	SD	0.54	SD	0.17	SD	0.71
CV	20.23	CV	22.48	CV	17.57	CV	27.76
t-test	8.04			t-test	-5.86		

Source : Computed From Annual Report

Table -7 reveals that the performance of the sample RRBs in terms of productivity i.e.total business per employees. Amalgamation of the RRBs leads to more recycling of funds and same has been depicted in this table. The proportion of business per employee of the KVGB has increased from Rs. 1.08 crore to

2.42 crore and from Rs. 0.96 crores to Rs. 2.57 crores in case PGB indicating both the banks have more funds. Further, the calculated value of t-test at 4 d.f. at 5% level of significance in case of Per Employee Business is 8.04 in case of KVGB and 5.86 in case of PGB. Whereas the tabulated value of t test at 4 d.f. at 5% level of significance is 2.132 which is more than the calculated value of both KVGB and PGB indicating this increase is statistically significant at 1% level.

8. Burden per Employee:

The term burden is defined as the excess of non-interest expenses over non-interest income. The ratio of burden per employee is a measure to relate the excess of non-interest expenses over non-interest income to per employee of sample bank under the study. Lesser the ratio of burden per employee the higher is the productivity and vice-versa.This ratio has been computed by dividing the amount of total burden by the number of employees in the bank.The information relating to burden per employee is given in Table 7.8.

$$\text{Per Employee Burden} = \frac{\text{Burden}}{\text{No. of Employees}} X100$$

Table -8
Per Employee Burden

Rs. in crores

KVGB				PGB			
Year	**Pre**	**Year**	**Post**	**Year**	**Pre**	**Year**	**Post**
2001	0.02	2006	0.04	2001	0.01	2006	0.03
2002	0.02	2007	0.05	2002	0.01	2007	0.03
2003	0.02	2008	0.05	2003	0.02	2008	0.04
2004	0.02	2009	0.05	2004	0.02	2009	0.04
2005	0.03	2010	0.05	2005	0.01	2010	0.05
Mean	0.0230	Mean	0.0460	Mean	0.0143	Mean	0.0421
SD	0.0045	SD	0.0040	SD	0.0024	SD	0.0069
CV	19.4617	CV	8.7394	CV	16.9728	CV	16.3692
t-test	-23.58			t-test	6.88		

Source : Computed From Annual Report

The perusal of table -8 speaks about the burden per employee which indicates that the burden per employee has increased from Rs. 0.023 crore to Rs. 0.046 crore in case of KVGB and from Rs. 0.0143 crore to Rs. 0.0421 crore in case of PGB during the period under the study which indicates that non-interest expenses are relatively more than the non-interest income. The table also reveals that the trend of changes in burden shown unchanged except in the year 2005 and this has increase from Rs 0.03 crore to Rs 0.05 crores and from Rs 0.03 crores to Rs 0.05 crores in KVGB and PGB during the period under study.This increase is of statistical significant at 1% level in both the sample banks.

9. Deposits per Branch:

The size of the deposits determines the funds available for profitable deployment. Volume of the deposit per branch indicates the branch efficiency in mobilizing deposits and also speaks about the goodwill of the bank.This ratio has been computed by dividing the amount of total deposits by the number of branches in the bank. The information relating to Deposit per branch is given below.

$$\text{Per Branch Deposit} = \frac{\text{Deposits}}{\text{No. of Branches}} X100$$

Table -9 reveals that the deposit per branch has increased from Rs. 3.22 crores to Rs. 7.27 crores in case of KVGB and from Rs. 2.91 crores to Rs. 4.08 crores in case of PGB indicating the banks improved efficiency in the mobilising the deposits from the customers more particularly during post amalgamation period.

Table -9
Per Branch Deposits

(Rs. in crores)

KVGB				PGB			
Year	**Pre**	**Year**	**Post**	**Year**	**Pre**	**Year**	**Post**
2001	2.62	2006	4.95	2001	2.33	2006	4.69
2002	2.90	2007	5.69	2002	2.62	2007	5.72
2003	3.11	2008	6.77	2003	2.78	2008	7.20
2004	3.43	2009	8.46	2004	3.62	2009	8.95
2005	4.05	2010	10.48	2005	3.98	2010	11.29
Mean	3.22	Mean	7.27	Mean	3.07	Mean	7.57
SD	0.49	SD	1.99	SD	0.63	SD	2.35
CV	15.32	CV	27.40	CV	20.44	CV	31.05
t-test	-5.39			t-test	-5.18		

Source : Computed From Annual Report

Further the table also reveals that the trend of deposits shown increasing from Rs 2.62 crores to Rs 4.05crores and from Rs 4.95 crores to Rs 10.48 crores in case of KVGB whereas this is increased from Rs2.33 croretoRs 3.98 crore and from Rs4.69 crores to Rs 11.29 crore in case of PGB during pre and post amalgamation period respectively. The increase is statistically significant for both the sample RRBs at 1% level.

10. Advances per branch:

Advances per branch indicate the extent of business of each branch. The higher the level of advances reflects greater financial and productive efficiency per branch. This ratio has been computed by dividing the amount of total advances by the number of branches in the bank. The information relating to Advances per branch is given below.

$$\text{Per Branch Advances} = \frac{\text{Advances}}{\text{No. of Branches}} X100$$

Table -10
Per Branch Advances

(Rs. in crores)

KVGB				PGB			
Year	**Pre**	**Year**	**Post**	**Year**	**Pre**	**Year**	**Post**
2001	2.11	2006	4.42	2001	1.84	2006	4.47
2002	2.35	2007	5.41	2002	2.24	2007	5.67
2003	2.50	2008	6.04	2003	2.65	2008	6.75
2004	2.80	2009	6.18	2004	2.89	2009	7.5
2005	3.62	2010	7.03	2005	3.65	2010	9.26
Mean	2.68	Mean	5.81	Mean	2.65	Mean	6.73
SD	0.52	SD	0.87	SD	0.61	SD	1.63
CV	19.45	CV	14.95	CV	23.01	CV	24.16
t-test	14.08			t-test	-8.02		

Source : Computed From Annual Report

The perusal of table -10 depicts that per branch advances in the sample RRBs has increased from Rs. 2.68 crore to Rs. 5.81 crore in case of KVGB and from Rs. 2.65 croretoRs. 6.73 crore in case of PGB during the period under study.The also reveals that the trend of advances shown increasing from Rs 2.11 crore to Rs 3.62 croe and from Rs 4.42 crore to Rs 7.03 crore in case of KVGB and fromRs 1.84 crore to Rs 3.65 crore and from Rs 4.47 crore to Rs 9.26 crores in case of PGB during pre and post amalgamation period. This increase is statistical significant at 1% level for both the sample RRBs.

11. Total Income per branch:

Total income is an indication of branch financial efficiency. If the income per branch is more it indicates that the branch is doing well in terms of financial management and vice versa. This ratio is a measure of total income earned by per branch. Higher the ratio greater is the productivity and vice versa. This ratio has been computed by dividing the amount of total income divided by the number of branches in the bank. The information relating to Total Income per branch is given in table 7.11.

$$\text{Per Branch Total Income} = \frac{\text{Total Income}}{\text{No. of Branches}} X100$$

Table -11

Per Branch Total Income

Rs. in crores

KVGB				PGB			
Year	**Pre**	**Year**	**Post**	**Year**	**Pre**	**Year**	**Post**
2001	0.43	2006	0.36	2001	0.390	2006	0.325
2002	0.49	2007	0.76	2002	0.451	2007	0.670
2003	0.51	2008	0.86	2003	0.482	2008	0.811
2004	0.56	2009	0.86	2004	0.500	2009	0.936
2005	0.61	2010	1.06	2005	0.601	2010	1.204
Mean	0.52	Mean	0.78	Mean	0.48	Mean	0.79
SD	0.06	SD	0.23	SD	0.07	SD	0.29
CV	11.91	CV	29.61	CV	14.22	CV	36.91
t-test	-2.95			t-test	-2.71		

Source : Computed From Annual Report

The perusal of table -11 reveals that the average of total income per branch has increased from Rs. 0.11 crores to Rs. 0.15 crores in case of KVGB and from Rs. 0.08 crores to Rs. 0.13 crores in case of PGB indicating the efficiency of the sample RRBs in terms of generating total income per branch has marginally improved. Further, there is an improvement per branch income in case of both the sample RRBs considered by the study. This increase is significant at 1% level. Between the sample RRBs, KVGB has performed better than the PGB.

12. Total Expenditure per Branch:

Total expenses per branch indicate the efficiency of branch in terms of managing total expenses so as to earn more profit out of income. Lower the expenditure per branch greater is the efficiency of a branch and vice versa. This ratio has been computed by dividing the amount of total expenditure by the number of branches in the bank. The information relating to total expenditure per branch is given below.

$$\text{Per Branch Total Expenditure} = \frac{\text{Total Expenses}}{\text{No. of Branches}} X100$$

A perusal of table -12 reveals that the per branch total expenditure of the sample RRBs has increased from Rs. 0.17 crores to Rs. 0.41 crores in case of KVGB and from Rs. 0.38 crores to Rs. 0.71 crores in case of PGB indicating more expenditures of each branch of sample RRBs during the period under the study.Total expenditure of the sample RRBs shown increase from Rs 0.12 crore to Rs 0.21 crore and from Rs 0.27 crore to Rs 0.83 crore in case of KVGB and from Rs 0.31 crore to Rs 0.40 crore and from Rs 0.46 crore to Rs 1.05 croreincase of PGB during the period under study indicating per branch increased expenses. The increase is more in case of PGB than KVGB. This is clear that the amalgamation has generated better performance in KVGB than PGB

13. Net Profit per Branch:

This ratio is a measure of net profit earned by each branch in a bank. Higher the ratio greater is the productivity and vice versa.

This ratio has been computed by dividing the amount of total amount of net profits by the number of branches in the bank. The information relating to net profit earned by each branch is given below.

$$\text{Per Employee Net Profit} = \frac{\text{Net Profit}}{\text{No. of Branches}} X100$$

The perusal of table -13 reveals that per branch net profit of the sample RRBs has marginally improved. Net profit per branch of KVGB has increased from Rs. 0.11 crore to Rs. 0.15crores and in case of PGB it has increased from Rs. 0.07crore to 0.13 crore during the period under study. Marginal increase is statistical significant only in case of PGB than in case of KVGB.

Table -12

Per Branch Total Expenses

Rs. in crores

KVGB				PGB			
Year	**Pre**	**Year**	**Post**	**Year**	**Pre**	**Year**	**Post**
2001	0.12	2006	0.27	2001	0.31	2006	0.46
2002	0.16	2007	0.32	2002	0.37	2007	0.51
2003	0.16	2008	0.33	2003	0.39	2008	0.68
2004	0.18	2009	0.32	2004	0.41	2009	0.84
2005	0.21	2010	0.83	2005	0.40	2010	1.05
Mean	0.17	Mean	0.41	Mean	0.38	Mean	0.71
SD	0.03	SD	0.21	SD	0.04	SD	0.22
CV	17.22	CV	49.98	CV	9.28	CV	30.56
t-test	-2.70			t-test	-3.49		

Source : Computed From Annual Report

Table -13

Per Branch Net Profit

(Rs. in crores)

KVGB				PGB			
Year	**Pre**	**Year**	**Post**	**Year**	**Pre**	**Year**	**Post**
2001	0.08	2006	0.15	2001	0.04	2006	0.12
2002	0.07	2007	0.18	2002	0.06	2007	0.16
2003	0.09	2008	0.18	2003	0.08	2008	0.13
2004	0.15	2009	0.09	2004	0.08	2009	0.10
2005	0.18	2010	0.15	2005	0.10	2010	0.15
Mean	0.11	Mean	0.15	Mean	0.07	Mean	0.13
SD	0.04	SD	0.03	SD	0.02	SD	0.02
CV	39.00	CV	21.45	CV	28.75	CV	15.44
t-test	-1.04			t-test	-4.29		

Source : Computed From Annual Report

14. Interest Spread per branch:

The term spread refers to the excess of interest income over interest expense. This ratio helps to understand the branches contribution in terms of managing other non-interest expenses. Higher the spread per branch higher is the banks efficiency in adding margin to net wealth and vice-versa.

This ratio has been computed by dividing the amount of totalspread by the number of branches in the bank.The information relating to spread per branch is given below.

$$\text{Per Branch Spread} = \frac{\text{Spread}}{\text{No. of Branches}} X100$$

Interest spread on each branch of sample RRBs has been depicted in table -14 which reveals that the proportion of per branch interest spread has increased from Rs. 0.24 crore to Rs. 0.40 crore and from Rs. 0.19 crores to Rs. 0.37 crores in case of KVGB and PGB respectively indicating the amalgamation of RRBs has positively affected on the productivity of the sample bank in terms of per branch interest spread.

Increase in interest spread found in increasing trend from Rs 0.18 crore to Rs 0.35 crore and from Rs 0.37 crore to Rs 0.42 crore in case of KVGB and from Rs 0.16 crore to Rs 0.25 crore and from Rs 0.32 crore to Rs 0.44 crore in case of PGB during the period under study.This increase is statistical significant in case of both the sample RRBs

Table -14
Per Branch Interest Spread

(Rs. in crores)

KVGB				PGB			
Year	**Pre**	**Year**	**Post**	**Year**	**Pre**	**Year**	**Post**
2001	0.18	2006	0.37	2001	0.16	2006	0.32
2002	0.19	2007	0.44	2002	0.17	2007	0.35
2003	0.22	2008	0.44	2003	0.18	2008	0.38
2004	0.26	2009	0.33	2004	0.19	2009	0.35
2005	0.35	2010	0.42	2005	0.25	2010	0.44
Mean	0.24	Mean	0.40	Mean	0.19	Mean	0.37
SD	0.06	SD	0.04	SD	0.03	SD	0.04
CV	25.13	CV	10.88	CV	16.82	CV	11.41
t-test	-4.18			t-test	-24.43		

Source : Computed From Annual Report

15. Business per branch:

The total business of the bank should be in an increasing trend so as to earn more profit out of it. A downward trend in business per branch implies either over staffing in the bank over the period or poor market share of the bank due to competition. Higher the business per branch greater is the efficiency and vice versa. This ratio has been computed by dividing the amount of total business by the number of branches in the bank. The information relating to business per branch is given below.

$$\text{Per Branch Total Business} = \frac{\text{Total Business}}{\text{No. of Branches}} X100$$

Table -15
Per Branch Business

Rs. in crores

KVGB				PGB			
Year	**Pre**	**Year**	**Post**	**Year**	**Pre**	**Year**	**Post**
2001	4.73	2006	9.37	2001	4.17	2006	9.17
2002	5.25	2007	11.10	2002	4.87	2007	11.38
2003	5.61	2008	12.81	2003	5.64	2008	13.96
2004	6.23	2009	14.63	2004	6.28	2009	16.45
2005	7.67	2010	17.51	2005	6.82	2010	20.56
Mean	5.90	Mean	13.08	Mean	5.55	Mean	14.30
SD	1.01	SD	2.82	SD	0.95	SD	3.97
CV	17.15	CV	21.57	CV	17.12	CV	27.75
t-test	-7.84			t-test	5.76		

Source : Computed From Annual Report

Table 15 reveals that total business per branch of the sample RRBs has increased significantly. An average of per branch total business of KVGB has increased from Rs. 5.90 crores to Rs. 13.08 crores and from Rs. 5.55 crores to Rs. 14.30 crores in case of KVGB and PGB respectively.The table also indicates that per branch business is increasing from Rs 4.73 crore to Rs 7.67 crore during pre-amalgamation and from Rs 9.37 crore to Rs 17.51 crore after the amalgamation in case of KVGB. Business per branch has also increased from Rs 4.17 crore to Rs 6.82 crore and from Rs 9.17 crore to 20.56 crores in case of PGB during the period under study. The same had been reflected in t-test.i.e the increase is statistical significant at 1% level. This indicates that amalgamation has positively affected more in case of PGB than KVGB in terms of business per branch.

16. Burden per branch:

The term burden is defined as the excess of non-interest expenses over non-interest income. The ratio of burden per branch is a measure to relate the excess of non-interest expenses over non-interest income each branch of sample bank under the study. Lesser the ratio of burden per branch is higher is the productivity and vice-versa.This ratio has been computed by dividing the amount of totalburden by the number of branches in the bank. The information relating to burden per branch is given below.

$$\text{Per Branch Burden} = \frac{\text{Burden}}{\text{No. of Branches}} X100$$

Table -16
Per Branch Burden

Rs. in crores

KVGB				PGB			
Year	**Pre**	**Year**	**Post**	**Year**	**Pre**	**Year**	**Post**
2001	0.10	2006	0.22	2001	0.10	2006	0.19
2002	0.12	2007	0.26	2002	0.12	2007	0.19
2003	0.13	2008	0.26	2003	0.13	2008	0.24
2004	0.11	2009	0.24	2004	0.11	2009	0.25
2005	0.16	2010	0.28	2005	0.16	2010	0.29
Mean	0.13	Mean	0.25	Mean	0.08	Mean	0.23
SD	0.02	SD	0.02	SD	0.01	SD	0.04
CV	17.06	CV	8.40	CV	16.92	CV	16.22
t-test	-31.98			t-test	-6.76		

Source : Computed From Annual Report

A perusal of table .16 reveals that the burden per branch has also increased from Rs. 0.13 crores to Rs. 0.25 crores and from Rs. 0.08 crores to Rs. 0.23 crores in case of KVGB and PGB respectively. Increased amount of burden reduces financial efficiency in terms of reduced net profit and also less return on investment and return on advances .The table also reveals that the amount of burden has increased marginally after the amalgamation in case of both KVGB and PGB indicating more non-interest expenses during post amalgamation period. Further the increase is statistically significant at 1% level. A perusal of above table indicates that there is no significant impact of amalgamation on the productivity performance of the sample RRBs, Because all the ratios as identified by the ratios reflects that the calculated value of t-test is less than the tabulated value at 8 d.f and at 5% level. This indicates that the sample RRBs have improve their efficiency in operating and financial management. Therefore, Null Hypothesis is accepted.

Conclusion:

To conclude, it can be said that growth in business per employee, Net profit per employee and total income per employee shows moderate growth in employee productivity. As far as burden per branch is concerned, it has shown a mixed phenomenon. As far as productivity is concerned, it has shown a mixed phenomenon. After going the operating profit per employee ratio of sample RRBs the performance founds satisfactory. It simply reflects that the productivity and the profit generating capacity of both employees, and each branch shown increasing in an appropriate and profitable manner This indicates the favourable impact of amalgamation on the productivity of the sample RRBs.

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