PROFITABILITY OF REGIONAL RURAL BANKS IN INDIA: AN EMPIRICAL ANALYSIS IN MEGHALAYA RURAL BANK

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Abstract *The profitability is the most important indicator of financial performance. The level of efficiency, productivity, and cost effectiveness is reflected through the bank's profit which can be considered as a composite index of the bank's performance in its various areas of operation. Therefore, banks particularly RRBs at the present juncture have to ensure equilibrium between community banking and profitability and earned reasonable return to defend their survival. Hence, the present study is undertaken to examine the profitability performance of MRB in the context of their performance RRB as a whole. For the purpose of the study, we have considered all the branches ie, 58 branches particularly for the analysis of profitability performance of MRB. The paper has (i) investigated the growth of profits of MRB in the context of RRBs as a whole, (ii) established the relationship between volume of business and profitability of MRB, (iii) assessed the impact of total earnings on the profitability of MRB, (iv) compared the profitability performance of banks with financial ratios in the context of RRBs as a whole, and (v) identified the determinants of profitability of MRB.*

Keywords: *Regional Rural Banks (RRB), Meghalaya Rural Banks (MRB)*

Introduction

Profitability is the basic objective of every business as well as motivating force behind the running of a firm. Opinions differ sharply with regard to the definition of profit, but in general, it is the difference between total revenue and total cost over a period of time (Gupta, 1977). There is mostly universal agreement with the definition that profit is primarily a residue or surplus of prices over expenses of production or leaving above costs (Hasan, 1975). Profits may be accounting profit, economic profit, and social profit. Accounting profit is calculated by taking explicit costs while economic profit[1] is derived at after taking both explicit and implicit costs into consideration (Angadi, 1987). Social profit is the difference between social benefit and social cost. It is yet difficult to find out social profit due to absence of an accurate measuring concept. Profitability is the ability of a given investment to earn return from its use. It is otherwise known as earning power of concern investments; it is only through profitability that the performance and efficiency of a firm or industry is judged. The higher degree of profit earning capacity will entail prosperity of the concern. The profitability is the relative term and its measurement can only be achieved by profit. On the other-hand, its relation with other subjects is compared by profit too. Like profit, there are accounting profitability and value added profitability. In accounting profitability[2] relative change is measured by measuring the output as proportion of the input and comparing with the result of the similar firm while value added profitability is measured by the excess of turnover plus income from services over the cost of bought in-goods or services (Gupta, 1989).

The profitability is a significant index of operational efficiency of banks. The higher degree of profit earning capacity will entail prosperity of the organization. The banks are highly responsive organization open to public security and must continuously ensure their profitability, which is essential for their growth and viability as also for infusing public confident (Uppal, 2011). The profitability is the most important indicator of financial performance. The level of efficiency, productivity, and cost effectiveness is reflected through the bank's profit which can be considered as a composite index of the bank's performance in its various areas of operation (Angadi and Devraj, 1983). Therefore, banks particularly RRBs at the present juncture have to ensure equilibrium between community banking and profitability and earned reasonable return to defend their survival. Hence, a detailed analysis of profitability is required to have an understanding of the present trend.

The Background

Although the banking sector works for the socio-economic development of an economy, it is also a commercial institution which mobilizes deposit and grants loans from its collection and thereby tries to earn profit for its smooth functioning. At the same time, being a financial institution and in order to sprint the business for long term sustainability and to pay the price of the capital to the share holders, certain amount of profits the bank always needs to be targeted.

The RRBs though operate with a rural focus are primarily scheduled commercial banks with a commercial orientation. The literature provides mixed evidence on the impact of liquidity on profitability. Beginning with the seminal contribution of Haslem (1968), the literature probing into factors influencing performance of banks recognizes two broad sets of factors, *i.e.*, internal factors and factors external to the bank. The internal determinants originate from the balance sheets and/or profit and loss accounts of the bank concern and are often termed as micro or bank-specific determinants of profitability. The external determinants are systematic forces that reflect the economic performance of RRBs. Banking Commission (1972) on the analysis of cost structure and profitability observed that the present method of working out of branch profitability are not appropriate and suggested the use of certain ratios for the measure of operational efficiency. Shah (1979) opined that mere increasing the margin between lending and borrowing will not improve the profitability. Any increase in income will be observed by latest efficiencies in cost structure. In the same line, The 9th Economist meets (1986) at New Delhi pointed out the issue related to profitability and profit planning in banks. It recommended the professionalisation of credit management, diversification of business, computerisation and better cost management etc. introducing the relationship between bank profitability and inflation. Revell (1979) noted that the effect of inflation on bank profitability depends on whether banks' wages and other operating expenses increase at a faster pace than inflation. Perry (1992) and Chopra (1987) in similar vein contend that the extent to which inflation affects bank profitability depends on whether inflation expectations are fully anticipated. Since nationalisation, banks acted over enthusiastically in observing norms much to the margin of their profits and profitability (Verma, 2002). But it was realized that adequate profits were an essential requirement of survival and healthy operation of the banking system. It is, in this context, PEP Committee (1977) observed that the profitability of the banking system had come under severe pressure due to increased costs and comparatively low earnings. In the context of low earning capacity of RRBs, Narasimham Committee (1991) observed that RRBs have not been able to earn much profit in view of their policy of restricting their operations to target groups. The recovery position of RRBs is not satisfactory. There are a large number of defaulters. Their cost of operation has been high on account of the increase in the salary scales of the employees in line with the salary structure of the employees of commercial banks. In most cases, these banks followed the same methods of operation and procedures as followed by commercial banks. Therefore, these procedures have not found favour with the rural masses. In many cases, banks have not been located at the right place. Rangarajan (1996) suggested that banks have to cut costs, improve productivity and ensure better recovery of loans. He pointed out that NPA as the major blockade on the profitability of banks. Criticizing the banking sector reform, Joshi (1999) viewed that banking sector reforms has been over emphasized on profits neglecting distributive role of banks and is contradicting the objectives of bank nationalisation to spread the banking system in the nook and corners of the country.

In the era of financial sector reforms of 1991-92 the commercial viability of the RRBs in the country was in a serious strain. The RRBs have limited business flexibility and rare scope of diversification and expansion. Simultaneously the lack of manpower expertise for utilizing the fund in an efficient manner always posed a question of earning profitability and sustainability of the RRBs in the country. In order to strengthen the performance of the RRBs in the country the Govt. along with the RBI had undertaken the restructuring strategies. As a part of the restructuring programmes, recapitalization of the RRBs was taken up in the year 1994-95 and it continued till 1999-2000 and in the process around 187 RRBs were given the financial support to the aggregate amount of Rs.2,188.44 crores. In order to enhance the performance of the RRBs other than recapitalisation several steps like liberalisation of branch licensing policy, opening of extension counters at the premises of the institution, installation of ATM branches etc. were made liberal by the Govt. At the same time, RRBs were given permission of merging or close down of unviable business offices in the country. Similarly, it has been emphasized that the sponsor banks could be responsible for the performance of RRBs and would provide support in the matters of efficient management, training of staff, computerization and networking of RRBs in the country.

In the above light, Das and Ghosh (2004-05) found that commercial banks are likely to have greater flexibility to rationalise their operations and diversify their activities than RRBs with limited option to rationalise branches. The study developed indicators of potential excess capacity in the RRB segment and illustrates its application to individual banking firms. Bose (2005) concluded that the inception and expansion phase (1976-1990) shows rapid growth of the RRBs activities; the reform phase (1991-2002/3) raised the profitability of these banks at the cost of massive rural disintermediation, particularly of the targeted borrower categories; and the most recent phase of stock taking and perhaps some repositioning to strike a balance in the conundrum of `viability versus outreach'. Batra and Dangwal (2005) observed a better performance of RRBs after the introduction of prudential norms in 1996-97 and recommended for further improving the efficiency in the present competitive era.

The Committee on Financial Sector Assessment was constituted by the government of India (2006) under the chairmanship of Dr. Rakesh Mohan to identify appropriate ideas, methodologies for financial sector assessment. In order to review the efficacy of existing framework of money lending a technical group, was constituted under the chairmanship of S.C. Gupta, submitted its report on July 2007 and recommended measures pertaining to the institutional reform, alternative avenues of credit dispensation such as micro finance institutions (RBI, 2007).

Profitability has become the parameter that gives a competitive edge to banks. In this context, Rajkumar (2007) analyses the earning performance of 28 private banks using the parameters like income, expenditure, and profits. He identified some of the banks as best performer than the others. Rao (2007) examined the performance of commercial banks with some established parameters like, business per branch, operating profit per branch, return on assets, return on equity, credit deposit ratio etc. The study suggested some measures to improve the operational and financial performance to face the challenges in transition. In the background of high level of international commitment, Pati and Shome (2007) suggested to ensure a strong regulatory and supervisory mechanism for banking sector to assemble a flexible financial system. Khankhoje and Sathye (2008) considering the variables i.e, interest income and non-interest income as outputs and interest expenses and non-interest expenses as inputs found that efficiency of rural banks has significantly improved after amalgamation and restructuring strategies. This finding was endorsed by Ibrahim (2010) that the performance of RRBs has significantly been improved after amalgamation process which was initiated by Government of India on the basis of various committees' recommendations. On the other side, the changing landscape of banking in the era of deregulation, globalization and technological advancement necessitated adequate operational risk management framework by the bank (Sinha, 2008). Under this situation particularly where the RRBs are struggling hard for achieving higher degree of performance, it is imperative to analyze the profitability performance of the rural banks in backward regions of the country in the context of national scenario of RRBs.

Objectives of the Study

The main objective of this paper is to examine the profitability performance of RRB in general and MRB in particular, operating in Meghalaya. The study, however, has proceeded with the following objectives-

- To study the growth of profits of MRB in the context of RRBs as a whole.
- To establish the relationship between volume of business and profitability of MRB.
- To assess the impact of total earnings on the profitability of MRB.
- To compare the profitability performance of banks with financial ratios in the context of RRBs as a whole.
- To identify the determinants of profitability of MRB.

Hypotheses Framed

- Incremental volume of business has a direct and positive bearing on the profitability of MRB.
- Incremental expenditure has a negative impact on the profitability of MRB.
- Incremental flow of total income has a direct and positive bearing on the profitability of MRB.
- The operating expenses of MRB are considered as major factor influencing profitability of banks.

A Brief Profile: Meghalaya Rural Bank

Meghalaya Rural Bank (MRB) is the only RRB (sponsored by State Bank of India) operating in 6 districts out of 7 districts of Meghalaya as on March 2010. The bank was established on 29th December 1981 under the RRBs Act 1976 as a joint undertaking of Govt. of India, the Govt. of Meghalaya and State Bank of India with the share capital at the ratio of 50: 15: 35. Prior to 1st May 2007 the name of this RRB was 'Ka Bank Nonkyndong Ri Khasi Jaintia'. As per power conferred by sub-section (1) section (3) of the RRB Act 1976 (21 of 1976) Department of Economic Affairs (Banking Division), Ministry of Finance, Govt. of India, in its notification dated 1st May 2007 substituted the name "Ka Bank Nonkyndong Ri Khasi Jaintia" as "Megha1aya Rural Bank". The MRB is operating in 6 districts with 58 branches as on March 2011. It is the 2nd largest bank in Meghalaya in terms of branches. The network of MRB is presented in Table 1 and Table 2.

Table 1: Network of Meghalaya Rural Bank as on March 2011

S. no	Districts	No. of Branches
1	East Khasi Hills District	25
2	West Khasi Hills District	14
3	Jaintia Hills District	13
4	RiBhoi District	4
5	East Garo Hills District	1
6	West Garo Hills District	1
7	South Garo Hills District	0
Total		58

Table 1 depicts that as on 2010-11, the East Khasi Hill constituted 25 number of branches, West Khasi Hills 14 branches, Jaintia Hills 13, Ri Bhoi district 4, West Garo Hill and East Garo Hill districts are having 1 branches in each district. The branch expansion of MRB in Garo Hills district of Meghalaya is very negligible because the MRB has started functioning in West Garo Hill from 31.03.2008 and East Garo Hill district from 09.01.2009 with only one branch in each district.

Table 2: Population Group wise Branch Network of Meghalaya Rural Bank

(Number of branches)

Year	Rural	Semi urban	Urban	Total
2000-01	43	3	5	51
2001-02	42	7	2	51
2002-03	42	7	2	51
2003-04	42	7	2	51
2004-05	42	7	2	51
2005-06	42	7	2	51
2006-07	42	7	2	51
2007-08	42	8	2	52
2008-09	42	9	3	54
2009-10	42	10	3	55
2010-11	43	12	3	58

Source: Annual Report of Meghalaya Rural Bank, Various Issues

It is also observed that more number of branches is expanded in rural areas than the semi urban or urban areas except in East and West Garo Hill districts as revealed from Table 2.

The RRBs operating in the state of Meghalaya have been considered as research population of the proposed study. As on March 2011, there is only one RRB i.e, Meghalaya Rural Bank with 58 branches operating in six districts of

Table 3: Growth of Income, Expenditure, and Profits of RRBs

(Amount Rs. in Crores)

Year	Total Income	Total Expenditure	Net Profit/Loss	Operating Profit	Total Assets	No. of Loss making RRBs	No. of profit making RRBs	Total no. of RRBs
2000-01	4,756.31	4,167.21	589.10	715.43	48,569.41	25	167	192
2001-02	5,564.19	4,956.31	607.88	774.08	56,803.84	29	167	196
2002-03	5,931	5,407	524	714	63,614	40	156	196
2003-04	6,244	5,475	769	1,055	70,278	33	163	196
2004-05	6,137	5,387	750	1,009	77,866	29	167	196
2005-06	6,546	5,929	617	928	89,645	22	111	133
2006-07	7,663	7,038	625	1,242	1,05,768	15	81	96
2007-08	9,406	8,379	1,027	1,859	1,25,194	8	82	90
2008-09	11,388	10,053	1,335	2,123	1,50,654	-	-	86
2009-10	13,835	11,951	1,884	2,913	1,84,093	-	-	82
2010-11	16,220	14,232	1,988	2,703	2,15,359	-	-	82

Source: 1. Basic Statistical Return of Scheduled Commercial Banks , Various Issues

2. Report on Trend and Progress of Banking in India, Various issuesf

Table 4: Component- wise profitability of RRBs in the National Scenario

(Amount Rs. in Crores)

Year	Income			Expenditure				Profits (3-7)
	Interest Income	Other Income	Total (1+2)	Interest Expended	Provisions and Contingencies	Operating Expenses	Total (4+5+6)	
	1	2	3	4	5	6	7	8
2000-01	4,528.07 (95.20)	228.24 (4.80)	4,756.31 (100)	2,901.74 (69.63)	126.39 (3.03)	1,139.14 (27.34)	4,167.27 (100)	589.10
2001-02	5,191 (93.30)	373 (6.70)	5,564 (100)	3,329 (67.17)	166 (3.35)	1,461 (29.48)	4,956 (100)	608.00
2002-03	5,501 (92.75)	430 (7.25)	5,931 (100)	3,513 (64.98)	190 (3.51)	1,703 (31.50)	5,406 (100)	525
2003-04	5,538 (88.69)	706 (11.31)	6,244 (100)	3,360 (61.37)	286 (5.22)	1,829 (33.41)	5,475 (100)	769
2004-05	5,676 (92.49)	461 (7.51)	6,137 (100)	3,161 (58.68)	259 (4.81)	1,967 (36.51)	5,387 (100)	750
2005-06	5,222 (93.27)	377 (6.73)	6,546 (100)	2,784 (54.71)	278 (5.46)	2,028 (39.85)	5,929 (100)	617
2006-07	7,123 (92.95)	540 (7.05)	7,663 (100)	3,716 (52.80)	617 (8.77)	2,705 (38.43)	7,038 (100)	625
2007-08	8,739 (92.91)	667 (7.09)	9,406 (100)	4,757 (56.77)	832 (9.93)	2,790 (33.30)	8,379 (100)	1,027
2008-09	10,579 (92.90)	810 (7.11)	11,388 (100)	6,100 (60.68)	788 (7.83)	3,165 (31.48)	10,053 (100)	1,335
2009-10	12,945 (93.57)	890 (6.43)	13,835 (100)	7,375 (61.71)	1020 (8.53)	3,547 (29.68)	11,951 (100)	1,884
2010-11	15,225 (93.87)	995 (6.13)	16,220 (100)	8,612 (60.51)	715 (5.02)	4,905 (34.46)	14,232 (100)	1,988

(Figures in the brackets indicate percentage to total)

Source: Statements of Financial Performance of RRBs, various issues of Report on Trend and Progress of Banking in India.

Meghalaya (details are shown in Table 1 and Table 2). For the purpose of the proposed study, we have considered all the branches particularly for the analysis of profitability performance of MRB.

Profitability of Regional Rural Banks in India

The profitability is a significant index of operational efficiency of banks. The higher degree of profit earning capacity will entail prosperity of the organization. The total profit is derived by subtracting total expenditure from its total income. In order to analyze profitability of RRBs at all India level, data relating to total income and total expenditure as well as figures of profit making and loss making RRBs in the national level has been considered. The position of income, expenditure and profits of the RRBs as a whole is shown in Table 3.

Table 3 shows that during the period 2000-2011, the income of the RRBs have increased on a continuous basis. The total income of the RRBs in the year 2000-01 was Rs. 4,756.31 crores and it reached to the level of Rs.16,220.0 crores in 2010-11 recording a 3.41 fold increase. Similarly, the expenditure has also increased from Rs.4,167.21 crores in 2000-01 to Rs. 14,232 crores in 2010-11. During the period, the increase in the expenditure of RRBs has gone up by 3.42 times which is almost equal to the increase in income level. As a result, the net profit of the RRBs was standing a meager amount of Rs. 589.04 crores in 2000-01 which has increased to Rs.1,988 crores in 2010-11. The net profit however, recorded a moderate growth of 3.37 times. The aggregate amount of operating profit[3] of the RRBs was Rs.715.43 crores in 2000-2001 which has increased to Rs. 2,703 crores in 2010-11. The total assets of the RRBs as a whole increased to Rs.2, 15, 359 crores from Rs. 48, 569.41 crores during the period under consideration. During 2000-01, out of 196 RRBs in all India level, 167 were making profit and rest 25 numbers were loss making. The situation, however improved in 2007-08. The number of profit making RRBs appeared to 82 out of total 90. It is also found that during the period under study, the number of loss making RRBs has declined. The profit making RRBs has also declined from 167 in 2000-01 to 82 numbers in 2007-08.

Profitability of Regional Rural Banks: Component- Wise Analysis

The component-wise growth of income, expenditure and profits of RRBs is presented in Table 4. The total income of the banking institution can be classified into interest income and income earned from other sources. The RRB has no exception to this. The overall income of the RRBs is classified into interest income and other income. During the year 2000-01, the interest income of the RRBs was Rs. 4,528.07 crores (i.e, 95.20 percent of total income). In 2010-11, the aggregate amount of interest income of the RRBs has increased to Rs 15,225 crores (i.e, 93.87 percent of total income). Although there has been quantum increase in interest income, the percentage share has declined. In case of other income, the figure was Rs. 228.24 crores in 2000-01 which increased to Rs. 995.0 crores in 2010-11. But during the years, there has been increase in the other income of the RRBs from 4.8 per cent of total income to 6.13 per cent. The total income (is the sum of interest income and other income) of the RRBs was Rs.4,756.31 crores in 2000-01 which has increased to Rs.16,220 crores in 2010-11.

The total expenditure of RRBs is subdivided into interest expenditure, provisions, and contingencies and operating expenditure of the banks. In 2000-01, the total amount of interest expenditure was Rs. 2,901.74 crores which was 69.63 percent of total expenditure. This has increased to Rs.8,612 crores in 2010-11 (i.e, 60.51 percent of total expenditure). The provisions and contingencies were Rs. 126.39 crores in 2000-01 (3.03 percent of total expenditure) has increased to a sum of Rs. 715 crores (5.02 per cent) in 2010-11. Similarly, the operating expenditure has increased from Rs.1139.14 crores to Rs.4,905 crores during the period under consideration. The total expenditure of the RRBs was Rs. 4,167.27 crores in 2000-01 and its quantum increased to Rs.14,232 crores in 2010-11. As a result, the total profits of RRB as a whole appeared as Rs. 589.10 crores in 2000-01 which has increased to Rs. 1,988 crores 2010-11 recording a 3.38 fold increase during 11 years under consideration.

In order to assess the inter-relationship between growths of interest income (X^1), other income (X^2) and total income (X^3), the correlation matrix analysis have been employed. The results are presented in Table 5.

Table 5: Correlation Matrix Analysis of the Components of Income

Variables	X^1	X^2	X^3
X^1	1		
X^2	0.91* (6.66)	1	
X^3	0.99* (21.06)	0.91* (6.66)	1

$t_{0.05}$ (9 d f) =1.833, $t_{0.01}$(9 d f) =2.821

*significant at both 5 per cent and 1 per cent level

Source: Self- calculated by the researcher

The above econometric analysis manifests that positive correlation coefficient (r) values are statistically significant

Table 6: Correlation Matrix Analysis of the Components of Total Expenditure

Variables	Interest expended	Provisions & contingencies	Operating expenses	Total expenditure
Interest expended	1			
Provisions &contingencies	0.80* (3.99)	1		
Operating Expenses	0.94* (8.06)	0.82* (4.32)	1	
Total Expenditure	0.98* (14.7)	0.85* (4.81)	0.98* (14.7)	1

$t_{0.05}$ (9 df.) =1.833, $t_{0.01}$ (9 df .) =2.821

*significant at both 5 per cent and 1 per cent level

Source: Self-calculated by the researcher at 5 percent and 1 percent level of significance in their respective degree of freedom. This indicates that with the expansion of total income, both interest income and non-interest income have increased in the same proportion. This however, signifies a positive growth trend of income of RRBs in India.

In the same line, an attempt has been made in the following paragraph to assess the inter-relationship among the component of total expenditure with the help of correlation matrix analysis. The results obtained are presented in Table 6. The analysis reveals that the positive correlation values are statistically significant at 1 percent and 5 percent level of significance at their respective degree of freedom for each of the components of expenditures. Since calculated values of 't' are greater than the critical value, the relationship between total expenditure and its individual components is due to change. Hence, there is a positive relationship exists among the variables. This implies that with the increase in total expenditures, there has been corresponding increase in their components. Thus a matching growth trend in expenditure of RRB is observed.

Further, in order to measure the impact of income and expenditure on profitability of RRBs, we have calculated correlation between (a) incremental income with incremental profit and (b) incremental expenditure with incremental profit during 2000-01 to 2010-11. The results obtained are as under-

Incremental Correlations

Variable	Correlation (r)	't' value (cal.)
r_a	0.70*	2.78
r_b	0.53**	1.76
$t_{0.05}$ (8 df.)=1.860 (tab), $t_{0.01}$ (8 df.)=2.896 (tab)		

*significant at both 5 per cent but not at 1 per cent level

** Insignificant

Source: Self-calculated by the researcher

It is observed that there is positive correlation (r) between incremental income and incremental profit is significant at 5 percent level not at 1 percent level of significance at 8 df. Thus, it implies that with the increase of total income, there has been increase in the profits of the RRBs at the national level but rate of increase may not be proportionate. The insignificant coefficient of correlation between incremental expenditure and incremental profit (i.e $r_b = 0.53$) at 8 df indicating that the total expenditure of RRBs has a direct bearing in the decrease of profit of the RRBs at the national level.

Profitability Performance of RRBs: The Ratio Analysis

The ratio analysis has been employed to examine the profitability of RRBs. The commonly used ratios are selected for measuring the profitability performance of RRBs in India. The profitability ratios are calculated by relating to various components of income, expenditure and operating and manpower expenses to a common denominator i.e., volume of business for the period 2000-01 to 2010-11. The following commonly used ratios are used for measuring the profitability performance of RRBs.

(I) Interest earned ratio (e) $= \frac{\text{Total Interest earned}}{\text{Volume of business}} \times 100$

(II) Interest paid ratio (p) $= \frac{\text{Total Interest paid}}{\text{Volume of business}} \times 100$

(III) Manpower expenses ratio (m) $= \frac{\text{Manpower expenses}}{\text{Volume of business}} \times 100$

(IV) Other establishment expenses ratio(o)

$$= \frac{\text{Other establishment expenses}}{\text{Volume of business}} \times 100$$

(V) Non-Interest income ratio (n) $= \frac{\text{Non-interest income}}{\text{Volume of business}} \times 100$

(VI) Spread ratio (s) = Interest earned ratio – interest paid ratio (e-p)

(VII) Burden ratio (b) = Manpower expenses ratio + other establishment expenses ratio – non-interest income ratio (m+o - n) and

(VIII) Profitability ratio (p) = Spread ratio – burden ratio (s-b)

The commonly used ratios have been calculated and presented in Table 7. It is revealed from the table that the interest earned ratio of the RRBs was 8.57 percent in 2000-01, which declined to 5.83 percent in 2010-11. In the same manner the interest paid ratio of the RRBs has declined from 5.49 percent to 3.30 percent during the period. As a result, spread ratio (interest earned ratio – interest paid ratio) has declined from 3.08 per cent to 2.53 percent. The variations in interest earned and interest paid ratio resulted a decline in spread ratio of RRBs. Similarly, the establishment and manpower ratio found to be 2.16 percent in 2000-01 which subsequently declined to 1.88 percent in 2010-11. The non-interest income ratio of RRBs was 0.43 percent in the year 2000-01 which has went down to 0.38 percent in 2010-11. The burden (manpower and establishment expenses minus non-interest income) ratio of RRBs decreased to 1.50

Table 7: Profitability Ratios of Regional Rural Banks in India

(Ratios in percentage)

Year	Interest Earned Ratio (a)	Interest paid Ratio (b)	Spread Ratio (c)	Establishment & Manpower Ratio(d)	Non-Interest Income Ratio (e)	Burden Ratio (f= d-e)	Profitability Ratio (p=c-f)
2000-01	8.57	5.49	3.08	2.16	0.43	1.73	1.35
2001-02	8.39	5.38	3.01	2.36	0.60	1.76	1.25
2002-03	7.80	4.98	2.82	2.42	0.61	1.81	1.01
2003-04	6.67	4.04	2.63	2.20	0.85	1.35	1.28
2004-05	5.97	3.33	2.64	2.07	0.49	1.58	1.06
2005-06	4.75	2.53	2.22	1.85	0.34	1.51	0.71
2006-07	5.46	2.85	2.61	2.07	0.41	1.66	0.95
2007-08	5.58	3.04	2.54	1.78	0.43	1.35	1.19
2008-09	5.69	3.28	2.41	1.70	0.44	1.26	1.15
2009-10	5.77	3.29	2.28	1.58	0.40	1.18	1.10
2010-11	5.83	3.30	2.53	1.88	0.38	1.50	1.03
Grand Mean	6.41	3.77	2.62	2.01	0.49	1.52	1.10
Variance	1.64	1.09	0.07	0.07	0.02	0.05	0.03

Source: Self-calculated by the researcher.

percent in 2010-11 from 1.73 percent in 2000-01. As a result, the profitability ratio (spread ratio minus burden ratio) of the RRBs has remained as low during the period. The ratio was 1.35 percent in 2000-01 declined to 1.03 percent in 2010-11.

It is also observed that the average profitability ratio of the RRBs during the study period in the national level is around 1.10 percent. This indicates that RRBs recorded on an average yearly profit of Rs. 1.10 per hundred rupee volume of business. This may be due to higher burden ratio and lower spread ratio of RRBs as a whole. The RRBs are earning a minimum level of profits while compared with the earning of public sector commercial banks in India. During 2008-09, the commercial banks in India have earned a profit of Rs 1.50 in per hundred rupee volume of business (RBI, 2008-09).

Profitability of Meghalaya Rural Bank: The Empirical Analysis

The foregoing analysis regarding profitability of RRBs revealed that RRBs were remained profitable on the basis of the parameters i.e, average annual profit per hundred rupee volume of business. The gravity of the situation will be clear from the fact that net profit as per cent total asset, most telling measure of profitability performance, was 0.82 in 2000-01 augmented to 1.08 in 2010-11. However, the number of profit making RRBs declined during the period under study. This apart, RRBs are earning a low level of profits while compared with the earning of public sector commercial banks in India. It is also observed that total expenditure of RRBs has a direct bearing on the decrease of profitability of the RRBs as a whole. With this backdrop, an attempt has been made hereunder to analyze the profitability of 58 branches of MRB operating in Meghalaya particularly to test whether the banks are achieving their desired profitability performance in the present day competition.

The Growth of Profitability of MRB

The profit is the chief barometer of efficiency and productivity of banks. It is the major objective of survival and growth of an enterprise. The excess of income over expenditure form the profit. In this context, Ganesh (1979) pointed out that the effectiveness of monitoring system would depend upon profit plan, identification of profit centres and a proper management information system (MIS). Therefore, banks at the present juncture have to ensure equilibrium between social banking and profitability, and earned reasonable return to defend their survival. Hence, a detailed analysis of profitability of MRB is required to have an in-depth scrutiny of the burning problem. The growth of profitability of MRB is presented in Table 8.

It is observed from the table that income of the MRB in the year 2000-01 was Rs. 1, 40,126 thousand, which increased to Rs.5,72,436 thousand in 2010-11 recording 4.08 times increase during 10 years. Similarly, the expenditure of the MRB was Rs.1, 13,865 thousand in 2000-01 and this has gone up to Rs.4,52,519 thousand in 2010-11 recording a 3.97

Table 8: Growth of Income, Expenditure, and Profits of Meghalaya Rural Bank

(Amount Rupees in thousand)

Year	Total Income	Total Expenditure	Net Profit	Operating Profit	Total Assets
2000-01	1,40,126	1,13,865	26,261	34,440	3,03,392
2001-02	1,71,133	1,32,406	38,727	52,891	3,52,205
2002-03	1,71,017	1,40,008	31,009	35,759	4,06,167
2003-04	1,68,975	1,46,843	22,132	30,864	4,62,521
2004-05	1,78,539	1,63,597	14,942	20,138	5,42,439
2005-06	1,69,725	1,50,402	19,323	26,534	6,66,700
2006-07	2,08,555	1,73,656	34,899	43,162	8,25,357
2007-08	2,69,043	2,09,826	59,217	73,420	9,73,316
2008-09	3,91,945	2,76,427	1,15,518	1,23,732	11,86,677
2009-10	4,22,974	3,06,612	1,16,362	1,26,767	16,04,869
2010-11	5,72,436	4,52,519	1,19,917	1,50,815	21,61,545
No of times increase	4.08	3.91	4.56	4.37	7.12

Source: Annual Report of Meghalaya Rural Bank, Various Issues

fold increase over the years. It is found that over the years, increase in income is higher than the increase in expenditure. As a result, the profit of the bank which was Rs.26,261 thousand in 2000-01, increased to Rs.1,19,917 thousand in 2010-11. The profit of MRB recorded an increase of 4.57 times during the period. The scenario of growth of profits of MRB (4.57 times) is better than the RRBs (3.37 times) as a whole. The amount of operating profit was Rs.34,440 thousand in the year 2000-01 and its aggregate amount has increased to Rs.1, 50,815 thousand in 2010-11. The total assets of the MRB were Rs.3, 03, 392 thousand in 2000-01, this figure has increased to the aggregate amount of Rs.21,61,545 thousand indicating a higher increase of 7.12 times over the years.

In order to examine the relationship between the volume of business (deposit + advances) and profitability growth of Meghalaya Rural Bank, we have calculated incremental volume of business and incremental profits during the period 2000-01 to 2010-11. In this respect, we have framed the hypothesis "*Incremental volume of business has a direct and positive bearing on the profitability of MRBs*". The hypothesis is tested by the correlation coefficient (r) analysis. The result is found as under.

$$r = 0.156$$

$$t = 0.447 \text{ (cal.)}$$

$$t_{0.05} \text{ (8 df.)} = 1.860 \text{ (tab)}$$

$$t_{0.01} \text{ (8 df.)} = 2.896 \text{ (tab)}$$

The 'r' value between incremental volume of business and incremental profits is 0.156. This association indicates low relationship between the variables and statistically not significant both at 5 percent and 1 percent level of significance at 8 degree of freedom[4]. It indicates that the volume of business does not have direct bearing on the volume of profits of MRB. Thus the hypothesis is found to be incorrect. It may be inferred that with the increase in volume of business (deposits + advances), the quantum of profits are not increasing at the same pace. This necessitates a further enquiry of component wise analysis of profitability of MRB.

Profitability of MRB: Component- Wise Analysis

The income of MRB is normally divided into interest income and other income. Likewise, the total expenditure is subdivided into interest paid, provisions and contingencies and operating expenses. The component-wise profitability of the MRB may be had from Table 9. The table exhibits that interest income of the MRB in quantitative term increased from Rs.1, 39, 082 thousand in 2000-01 to Rs.5, 52, 534 thousand in 2010-11, but the percentage share of its total income dwindled from 99.25 percent to 96.52 percent during the span. However, the share of miscellaneous income/ other income of the MRB increased from 0.75 percent to 3.48 percent. In the expenditure side, although there is a quantum increase of the interest expended its percentage share to total expenditure declined from 66.25 percent to 58.94 percent. In 2000-01, provisions and contingencies of the MRB was Rs.8,179 thousand, increased to Rs.30,898 thousand in 2010-11.

Table 9: Component- wise profitability of Meghalaya Rural Bank

(Amount Rupees in thousand)

Year	Income			Expenditure				Profits (3-7)
	Interest Income	Other/Miscell-aneous Income	Total (1+2)	Interest Expended/ paid	Provisions & Contingencies	Operating Expenses	Total (4+5+6)	
	1	2	3	4	5	6	7	8
2000-01	1,39,082 (99.25)	1,044 (0.75)	1,40,126 (100)	75,438 (66.25)	8,179 (7.18)	30,248 (26.56)	1,13,865 (100)	26,261
2001-02	1,63,150 (95.34)	7,983 (4.66)	1,71,133 (100)	84,444 (63.78)	14,164 (10.70)	33,798 (25.53)	1,32,406 (100)	38,727
2002-03	1,67,629 (98.02)	3,388 (1.98)	1,71,017 (100)	94,369 (67.40)	4750 (3.39)	40,889 (29.21)	1,40,008 (100)	31,009
2003-04	1,66,784 (98.70)	2,191 (1.30)	1,68,975 (100)	81,755 (55.68)	8,732 (5.95)	56,356 (38.38)	1,46,843 (100)	22,132
2004-05	1,75,315 (98.19)	3,224 (1.81)	1,78,539 (100)	86,843 (53.08)	5,196 (3.18)	71,558 (43.74)	1,63,597 (100)	14,942
2005-06	1,64,684 (97.03)	5,041 (2.97)	1,69,725 (100)	90,151 (59.94)	7,211 (4.79)	53,040 (35.27)	1,50,402 (100)	19,323
2006-07	2,02,956 (97.32)	5,599 (2.68)	2,08,555 (100)	99,481 (57.29)	8,263 (12.54)	65,912 (37.96)	1,73,656 (100)	34,899
2007-08	2,62,430 (97.54)	6,613 (2.46)	2,69,043 (100)	1,30,824 (62.35)	14,293 (6.81)	64,709 (30.84)	2,09,826 (100)	59,217
2008-09	3,61,774 (92.30)	30,171 (7.70)	3,91,945 (100)	1,92,367 (69.59)	8,214 (2.97)	75,846 (27.44)	2,76,427 (100)	1,15,518
2009-10	4,12,042 (97.42)	10,932 (2.58)	4,22,974 (100)	2,08,507 (68.00)	10,405 (8.94)	87,700 (75.37)	3,06,612 (100)	1,16,362
2010-11	5,52,534 (96.52)	19,902 (3.48)	5,72,436 (100)	2,66,730 (58.94)	30,898 (6.83)	1,54,891 (34.23)	4,52,519 (100)	1,19,917
CAGR	13.36	30.73	13.65	12.17	12.84	16.01	13.36	14.81

Source: Annual Report of Meghalaya Rural Bank, Various Issues

The operating expenses to total expenditure swelling from 26.56 percent to 34.23 percent during the period covered. The table exhibits that over the years there has been 5.12 times increase in the operating expenditure of the MRB in comparison with 3.91 times in total expenditures. The higher rate of increase in operating expenditure of MRB may be due to infrastructural bottleneck and weak e-communication network of the area in which MRB is operating its business. Hence, an urgent step is required in this respect to control the unnecessary operating expenditure of banks.

Table 10: Correlation Matrix Analysis of the Components of Income

Variables	X^1	X^2	X^3
X^1	1		
X^2	0.75* (3.41)	1	
X^3	0.99* (21.06)	0.78* (4.76)	1

$t_{0.05}$(9 d f) =1.833, $t_{0.01}$(9 d f) =2.821

*significant at both 5 per cent and 1 per cent level

Source: Self- calculated by the researcher

Table 11: Correlation Matrix Analysis of the Components of Expenditure

Variables	Interest expended	Provisions & contingencies	Operating expenses	Total expenditure
Interest expended	1			
Provisions & contingencies	0.71* (4.23)	1		
Operating Expenses	0.88* (6.25)	0.77* (4.69)	1	
Total Expenditure	0.98* (14.7)	0.78* (4.76)	0.95* (9.68)	1

$t_{0.05}$ (9 df.) =1.833, $t_{0.01}$ (9 df .) =2.821

*significant at both 5 per cent and 1 per cent level

Source: Self calculated by the researcher

In order to assess the relationship among the components of income of MRB, the correlation matrix analysis is employed between growths of interest income (X^1), other income (X^2) and total income (X^3) during 11 years from 2000-01 to 2010-11. The results are presented in Table 10.

The above econometric analysis shows that positive correlation coefficient (r) values are statistically significant at 5 percent and 1 percent level of significance at their respective degree of freedom and thereby, indicates that with the growth of total income, both interest income and non-interest income have increased in the same proportion. But the comparatively higher correlation (0.99) between total income and interest income indicates that the growth of interest income is exactly proportional to total income. This signifies a positive growth trend of income of the MRB. It may be inferred that MRB are performing as good as RRBs of the country.

Having analyzed the relationship of components of income, here an attempt has been made to assess the inter-relationship among the component of total expenditure viz, interest expended, provisions and contingencies, and operating expenses during period under consideration. The results obtained are shown in Table 11.

It is observed that all the correlation values are significant at 5 percent and 1 percent level of significance at their respective degree of freedom. This implies that with the increase of total expenditures, there has been corresponding increase in the individual components of total expenditure which reveals a matching growth trend. In other words, MRB is expensing the required amount in each expenditure head like RRBs of the country. However, a diagnosis in respect of influence of expenditure on profitability of MRB will be effective at this juncture to undertake strategies for future operation of the bank.

Hence, in order to assess the relationship between the growth of expenditure and the volume of profits of MRB, the analysis of correlation coefficient 'r' between incremental amount of expenditure and incremental amount of profits are made. In this respect, our hypothesis is "*Incremental expenditure has a negative impact on the profitability of MRB*". The result obtained is as under-

$$r = 0.29$$

$$t = 0.858 \text{(cal.)}$$

$$t_{0.05} \text{ (8 df.)} = 1.860 \text{ (tab)}$$

$$t_{0.01} \text{ (8 df.)} = 2.896 \text{ (tab)}$$

The analysis shows that there exist a low positive correlation (r=0.29) between incremental expenditure and the incremental profitability of MRB. To test the significance level, 't' value has been calculated and found that the correlation is neither significant at 5 percent level of significance nor at 1 percent level of significance. It indicates that the MRB has not yielded higher profit due to an increase in expenditure over the years. Thus hypothesis is found to be true indicating thereby that incremental expenses have mounted over the years and not resulted in increasing profits. The reason may be attributed to involvement of excess staff in the branches and the volume of business has not increased over the years.

Similarly, an attempt has been made here under to identify the impact of total earnings on the profitability of MRB. For this purpose, the incremental growth of total income and incremental growth of profits has been calculated for the period 2000-01 to 2010-11. In this context our hypothesis is that *"incremental flow of total income has a direct and positive bearing on the profitability of MRB"*. The hypothesis is tested with the help of correlation coefficient (r) between incremental income and incremental profits of MRB for the aforesaid period. The result obtained is as under-

$$r = 0.61$$

$$t = 2.179 \text{ (cal.)}$$

$$t_{0.05} \text{ (8 df.)} = 1.860 \text{ (tab)}$$

Table 12: Profitability Ratios of Meghalaya Rural Bank

(Ratios in percentage)

Year	Interest Earned Ratio (a)	Interest paid Ratio (b)	Spread Ratio (c)	Establishment & Manpower Ratio (d)	Non-interest Income Ratio (e)	Burden Ratio (f= d-e)	Profitability Ratio (p=c-f)
2000-01	9.09	4.93	4.16	1.98	0.07	1.91	2.25
2001-02	9.14	4.73	4.41	1.89	0.45	1.44	2.97
2002-03	8.55	4.81	3.74	2.09	0.17	1.92	1.82
2003-04	7.51	3.68	3.83	2.54	0.10	2.44	1.39
2004-05	6.39	3.17	3.22	2.61	0.12	2.49	0.73
2005-06	5.19	2.84	2.35	1.67	0.16	1.51	0.84
2006-07	5.60	2.74	2.86	1.82	0.15	1.67	1.19
2007-08	6.35	3.17	3.18	1.57	0.16	1.41	1.77
2008-09	6.92	3.68	3.24	1.45	0.58	0.87	2.37
2009-10	5.95	3.01	2.94	1.27	0.16	1.11	1.83
2010-11	6.18	2.98	3.20	1.73	0.22	1.51	1.69
Grand Mean	6.99	3.61	3.38	1.87	0.21	1.66	1.71
Variance	1.94	0.69	0.36	0.17	0.02	0.25	0.44

Source: Calculated by the researcher

$t_{0.01}$ (8 df.)=2.896 (tab)

The correlation coefficient is found to be 0.61. It indicates a positive relationship between incremental income and incremental profits. The 'r' value is significant at 5 percent level but not at 1 percent level of significance. Hence, the hypothesis is partially true. It indicates that total earning might have a bearing on profitability but does not have a direct impact on the profitability of MRB. It means that the increase in total income does not result in the rise of profits.

Profitability Performance of MRB: The Ratio Analysis

The foregoing analysis relating to profitability of MRB leads us to scan further. Hence, the profitability ratios of the MRB have been calculated by using the common formulas, as used in ratio analysis of RRBs as a whole. The calculated ratios are shown in Table 12.

During 2000-01, the interest earned ratio of the MRB was 9.09 percent. This however, declined to 6.18 percent in 2010-11. The position of interest earned ratio of MRB is better than the ratio of RRBs as a whole (5.83 percent) during 2010-11. The interest paid ratio was 4.93 per cent which has gone down to 2.98 per cent in 2010-11. The lower interest paid ratio of MRB (2.98 percent) than the RRB as a whole (3.30 percent) indicates better position of MRB in Meghalaya. As a result, the spread ratio was 4.16 per cent in 2000-01, has reduced to 3.20 percent in 2010-11. The establishment and manpower ratio was 1.98 per cent in 2000-01, which decreased to 1.73 percent in 2010-11. The average fall in the establishment and manpower ratio over the years is 1.87 percent. The non-interest income ratio of MRB was 0.07 per cent in 2000-01 which increased to 0.22 percent in 2010-11. The average non- interest earned ratio over the years is 0.21 per cent. The burden ratio of MRB also declined during the period. The profitability ratio of MRB was 2.25 percent in 2000-01 which declined to 1.69 per cent in 2010-11. The average profitability ratio during the study period standing at 1.71 percent is far better than the RRBs as whole i.e, 1.10 per cent. This indicates MRB are performing well as it recorded on an average yearly profit of Rs. 1.71 per hundred rupee volume of business where as RRBs recorded Rs.1.10.

However, a further enquiry on identification of factors influencing profitability of MRB will definitely lead the bank in a better platform.

Determinants of Profitability of Meghalaya Rural Banks

In order to assess the factors affecting the profitability of MRB, regression analysis has been employed. For this purpose, various factors like priority sector lending, C/D ratio, operating expenses, spread, total deposits and NPA are considered as independent variables and profit earned as

Table 13: Data Relating to the Determinants of Profitability of MRB

Year	Profit (π) (thousand)	Priority Sector Advances (PSL) (in thousand)	C/D Ratio (percent) (C/D)	Operating Exp (OT) (in thousand)	Spread (S) (in thousand)	Total Deposit (TD) (in thousand)	NPA (in Thousand)
2000-01	26261	37311	30.00	30248	63644	1226293	117651
2001-02	38727	71450	25.00	33798	78706	1432184	124995
2002-03	31009	78646	26.00	40889	73260	1553924	136316
2003-04	22132	77281	26.31	56356	85029	1758127	136280
2004-05	14942	97531	24.67	71558	88472	2199196	149062
2005-06	19323	120051	26.63	53040	74533	2504085	150264
2006-07	34899	201848	29.36	65912	103475	2801385	170463
2007-08	59217	258688	30.80	64709	131606	3159848	153258
2008-09	115518	273253	29.37	75846	169407	4039445	93112
2009-10	116362	392945	30.15	87700	203535	5323070	105318
2010-11	119917	539552	31.91	154891	285804	6774188	133660

ANOVA of Dependent Variables

Model	SS	df	MS	F	Sig.
Regression	17538452676	6	2923075446	80.439	0.0004009
Residual	14535433.1	4	36338583.28		
Total	1017683807009	10			

The other results found are presented as under-

Regression Co-efficients

Variables	b coefficients	't' value	Sig.	R^2	Adjusted R^2	SE.
β_o(Constant)	-	2.925	0.043	0.991	0.979	6028.15
Priority Sector lending (PSL)	1.5116	2.681	0.055			
Credit deposit ratio (C/D)	-2645.04	-1.743	0.156			
Operating expenses (OT)	1.911	1.742	0.156			
Spread (S)	-2.201	-1.990	0.117			
Total Deposit (TD)	-0.0673	-2.284	0.084			
Non Performing Assets (NPA)	-2. 362	-3.020	0.039			

dependent variables in the regression model. The regression equation has been fitted over the data pertaining to the period of 11 years, 2000-01 to 2010-11 exhibited in Table 13. To assess the interdependency among the factors, we have used the following regression model.

$\pi = b_o + b_1 (PSL)_t + b_2 (C/D)_t + b_3 (OT)_t + b_4 (S)_t + b_5 (TD)_t + b_6 (NPA)_t + U_t$

Where,

π = Profit

PSL= Priority Sector Lending

C/D= Credit-Deposit Ratio

OT=Operating Expenses

S = Spread

TD= Total Deposits

NPA = Non-Performing Assets

U_t= Error Term

b_o=Intercept

and b_1= (i=1,2,3,………6)= Co-efficient of regression parameters

The ANOVA of dependent variable shows that F ratio (80.439) is found to be statistically significant at 5 per cent level indicating that the independent variables considered may be the perfect determinants the profitability of MRB.

It is revealed from the regression analysis that variation in the dependent variable viz. profitability of MRB is explained about 99 percent by independent variables (R^2=0.991). This implies that independent variables viz. priority sector lending, credit deposit ratio, operating expenses, spread, deposits and NPA are to be considered as perfect determinants of dependent variable i.e, profitability of MRB. In order to assess the influence of individual factors on profits, we have calculated 't ' value on individual regression coefficients. The priority sector lending and operating expenses have turned to be statistically significant which indicates that profitability of MRB have been mounted due to bank exposure to priority sector lending and more operating expenditure incurred by banks. This has confirmed the fact that MRB has deployed more amount of loans to the priority sector and spent a huge of money for its recovery which leads to increase the operating expenditure of banks. However, the negative regression coefficients of CD ratio (-2645.03), deposits (-0.067) and NPA (-2.361) implies that more exposure of banks towards lending activities, higher amount of mobilization of deposits and the level of NPAs are the determinants of profitability. Thus an urgent step is warranted to arrest the uncontrolled expenditure in comparison with volume of business made by MRB over the period under consideration.

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Notes

(Endnotes)

1 Economic Profit = $(E_A + E_s) - (I_c + O_c) + S_c + K_c$

where ,S_c = Solvency cost
K_c = Opportunity cost of capital and reserve.

2 $$\text{Accounting Profitability} = \frac{\text{Operating profit}}{\text{Capital employed}} \times 100$$

3 In operating profit, the aggregate amount of provisions and contingencies is not subtracted from the total income of the bank which is usually done in case of net profit. This is why the operating profit is always higher than the net profit.

4 Since we have considered incremental figures, the eleven number of observations is deduced to ten and hence, the degree of freedom (n-2) is eight.