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**ANALYSIS OF FINANCIAL STATEMENTS OF BANKS –  
PROFIT, PROFITABILITY AND BREAK EVEN LEVEL  
BUSINESS – RATIO ANALYSIS**

## **1. INTRODUCTION**

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 dividend to their shareholders. The banks will, therefore, have to earn profit. Only a profit earning bank inspires confidence in its customers.

## **2. FACTORS AFFECTING PROFITABILITY**

2.1 While profit is excess of income over expenditure during any accounting period, profitability is a relative term expressed as a percentage to average working funds. The following five important factors determine the profitability of a bank.

- i) Amount of working funds deployed
- ii) Cost of funds
- iii) Yield on funds
- iv) Burden Management cost, and
- v) Risk cost

### **2.2. Working funds**

Working Funds are the funds deployed by a bank in its business. The amount of working funds so deployed is usually arrived at by subtracting the aggregate amount of contra items from the total liabilities of the balance sheet. However, for analyzing the profitability, the balance sheet showing balance based on weekly/monthly average should be prepared. Based on this balance sheet, the average working funds should be ascertained by netting the total of contra items from the total of the balance sheet.

### **2.3. Cost of funds**

2.3.1. The sources of funds for a bank comprise share capital and reserves (owned funds), deposits, borrowings and other liabilities. These are briefly discussed in the following paragraphs.

2.3.2 Share capital and reserves – Share capital is contributed by the shareholders in case of CBs and RRBs and by the members in Cooperative banks for the business of the bank and may, therefore, be treated as cost free for the purpose of profitability. However, for a more stringent and conservative analysis of profitability, the dividend paid by a bank may be taken as cost of owned funds. Reserves being past profits retained in the business are cost free.

Provisions and credit balance in the profit and loss account which are not in the nature of outside liabilities may be equated with the reserves first, share capital and further from deposits for the purpose of profitability analysis.

Thus, if the share capital of a bank is Rs.50,00 lakh out of the total owned funds of Rs.75.00 lakh, and if the bank had declared a dividend of 15% on its share capital. The average cost of owned funds can be calculated as under:

$$\begin{aligned}
 \text{Average cost of owned funds} &= \frac{\text{Amount of dividend}}{\text{Average owned funds}} \times 100 \\
 &= \frac{7,50,000}{75,00,000} \times 100 \\
 &= 10\%
 \end{aligned}$$

It may be observed from the above that although the bank had declared a dividend of 15% the cost of its owned funds works out to only 10% due to the build up cost free reserves.

2.3.3 Deposits – The banks pay different rates of interest depending upon the nature and term of the deposit. The cost of deposits, therefore, depends upon the deposit-mix of the bank. We have to find out the average cost of these deposits for comparing with the average yield on funds deployed. The average cost of deposits is worked out per Rs.100/- of deposits as in the following examples:

If the amount of interest paid and payable on the deposits of Rs.200.00 lakhs is Rs.14,22,600/-the average cost of deposits is worked out as follows:

$$= \frac{\text{Interest paid/payable (As per P \& L A/c)}}{\text{}} \times 100$$

$$\begin{aligned}
 & \text{Average deposits} \\
 & 14,22,600 \\
 = & \frac{\text{-----}}{200,00,000} \times 100 \\
 = & 7.113\%
 \end{aligned}$$

Note: It is desirable to calculate the cost of funds, financial margin, etc. at least up to the third decimal.

For studying the relative cost of each type of deposit for improving the profitability, the bank should work out the weighted average cost of each type of deposit depending upon its share in the aggregate deposits kitty as follows:

| Sr. No. | Nature of deposit                        | Amount (Rs. lakhs) | Share in total deposits (%) | Rate of Interest(%) | Weighted average rate of interest (%) (4X5/100) |
|---------|--|--------------------|-----------------------------|---------------------|---|
| 1.      | Current                                  | 5                  | 2.5                         | 0                   | 0   |
| 2.      | Savings                                  | 50                 | 25.0                        | 4                   | 1.000   |
| 3.      | Term deposits                            |                    |                             |                     |   |
|         | a.30 days and above but less than 1 year | 60                 | 30.0                        | 8                   | 2.400   |
|         | b.1-3 years                              | 45                 | 22.4                        | 8.5                 | 1.913   |
|         | c.Above 3 years                          | 40                 | 20.0                        | 9                   | 1.800   |
|         |  | <b>200</b>         | <b>100</b>                  |                     | <b>7.113</b>                                    |

**2.3.3 Borrowings** – These may be by way of borrowings from higher financing agencies, interbank borrowings or refinance from RBI, NABARD, SIDBI, IDBI, NHB etc. The average cost of borrowings and the weighted average cost of each type of borrowing have to be worked out as in the case of deposits.

**2.3.4 Other liabilities** – The other liabilities include bills payable, drafts payable, etc. and represents cost free funds.

**2.3.5 Average cost of funds** – The average cost of funds for the bank can be worked out as under :

Total interest/dividend paid  
(as per P & L A/c.)

$$\text{Average cost of funds (k)} = \frac{\text{-----}}{\text{-----}} \times 100$$

### Average working funds<sup>1</sup>

The weighted average cost of funds can also be calculated as illustrated hereunder:

| Source of funds          | Average o/s amount (Rs.lakhs) | Relative share (%) | Cost (%) | Weighted average cost (%) (3X4/100) |
|--------------------------|-------------------------------|--------------------|----------|-------------------------------------|
| Owned funds <sup>2</sup> | 75.00                         | 18.76              | 10.000   | 1.875                               |
| Deposits                 | 200.00                        | 50.00              | 7.113    | 3.557                               |
| Borrowings               | 50.00                         | 12.50              | 9.025    | 1.128                               |
| Other liabilities        | 75.00                         | 18.75              | -        | -                                   |
|                          | <b>400.00</b>                 | <b>100.00</b>      |          | <b>6,560</b>                        |

The weighted average and the average will not be identical, as in case of average we have taken average working funds in the denominator, while in the weighted average we have used the average outstanding balances under each item.

The component-wise average cost table above can give us a clear idea about why the cost of funds are high, if it is high. We can also know what types of funds to attract and what kinds of funds to be discouraged.

The item "other liabilities" includes float funds, which are zero cost funds.

Further, where figures are not available for monthly/quarterly averages the average of opening and closing balances can be used as average.

## 2.4. Deployment of funds and yield on funds

**2.4.1** The funds mobilized by a bank through different sources are utilized for –

- Compliance with the statutory requirements relating to CRR and SLR;
- investments in non-SLR avenue;
- granting loans and advances; and
- deploying in other assets such as land & buildings, furniture and fixtures, etc.

**2.4.2** Cash on hand – As cash on hand yields no returns, banks should maintain only minimum cash balance required for day to day business. This will also reduce the security risk for the bank.

**2.4.3** Balance in CA – Amount kept in CA with other bank and if no interest is paid income/yield on this balance will be nil. Some of the sponsor banks pay interest on CA balance with them to their sponsor RRBs. Interest received on such

<sup>1</sup> In all cases we can use average total assets instead of average working funds in the denominator. We will refer to this as the "alternative method".

<sup>2</sup> In the alternative method, only interest bearing liabilities are considered for analyzing funding cost.

balance may be worked out by dividing the interest received on CA balance from sponsor bank by average amount in CA.

**2.4.4** Investments – Investments, for the purposes of profitability analysis, include all deposits with banks including current account balance, and other investments in Government and other securities, shares and debentures, etc. The banks have to maintain these investments for the purposes of CRR and / or SLR. The return on these investments comprises interest and dividend actually received. As in the case of liabilities, the average yield on investment and the weighted average yield on each type of investment have to be worked out to select the optimum investments-mix.

**2.4.5** Loans and advances – The loans and advances portfolio provides the most profitable avenue for deployment of funds by a bank. The weighted average yield on advances of 100 is worked out as follows :

$$\text{Average yield on advances} = \frac{\text{Interest received on advances (as per P\&L A/c.)}}{\text{Average advances (including NPAs)}} \times 100$$

The component wise weighted average yield on advances carrying different rates of interest is worked out as under:

| Category of advance | Average o/s amount (Rs.lakhs) | % share in total | Interest rate(%) | Weighted average interest rate (%) (3X4/300) |
|---------------------|-------------------------------|------------------|------------------|--|
| Upto Rs.25000/-     | 90.00                         | 30.00            | 13               | 3.9  |
| Rs.25001-Rs.2 lakhs | 130.00                        | 43.33            | 14               | 6.066  |
| Above Rs.2 lakhs    | 80.00                         | 26.67            | 16               | 4.267  |
|                     | <b>300.00</b>                 | <b>100.00</b>    |                  | <b>14.233</b>                                |

**2.4.5** Other assets – The bank should limit its investments in land and buildings, furniture and fixtures, etc. only to the extent required for its business as they do not either earn any return or earn comparatively low returns.

**2.4.6** Average yield on assets – The average yield on assets is worked out as under:

$$\text{Average yield (r)} = \frac{\text{Total Interest/dividend received (as per P \& L A/c.)}}{\text{Average working funds}} \times 100$$

The component wise weighted average yield on assets is worked out as under:

| Sr. No. | Assets                    | Average Amount (Rs. lakhs) | Relative share in total (%) | Yield per Rs.100 | Weighted average yield per Rs.100 (4x5/100) |
|---------|---------------------------|----------------------------|-----------------------------|------------------|---|
| 1.      | Cash                      | 5.00                       | 1.25                        | -                | -   |
| 2.      | Balance in Current A/c.   | 10.00                      | 2.50                        | -                | -   |
| 3.      | Investments               | 75.00                      | 18.75                       | 11.267           | 2.113                                       |
| 4.      | Advances                  | 300.00                     | 75.00                       | 14.233           | 10.675                                      |
| 5.      | Other assets <sup>3</sup> | 10.00                      | 2.50                        | -                | -   |
|         |                           | <b>400.00</b>              | <b>100.00</b>               |                  | <b>12.788</b>                               |

If the share of non-interest earning or low interest earning assets increases, the average yield on assets will decrease, adversely affecting the profitability of the bank.

## 2.5 Other factors

**2.5.1** We have so far discussed the average cost of funds and average yield on funds. The profitability, however, ultimately depends upon the overhead costs, risk cost and the miscellaneous income. These are discussed briefly hereunder:

**2.5.2** Transaction costs (Operating cost) – These are also called management costs and include all costs other than cost of funds and provisions. Thus, they consist of staff cost, i.e., salaries and other payments such as bonus, gratuity, etc. made to staff (s) and overheads such as expenses on stationery and printing, postages, rents, depreciation on assets, etc. (o). Transaction costs should be computed as a percentage of working funds as under:

$$\text{Transaction costs (s+o)} = \frac{\text{Total transaction costs}}{\text{Average working funds}} \times 100$$

**2.5.3** Risk cost – The risk cost is worked out to estimate the likely annual loss on assets as a ratio of Rs.100/- of average funds deployed. Provisions made towards bad and doubtful debts, loss assets should be included under risk cost. The risk cost can be qualified as :

$$\text{Risk cost (pc)} = \frac{\text{Total of provisions made in P \& L A/c. towards NPA, etc.}}{\text{Average working funds}} \times 100$$

In order to ensure a realistic projection of the risk cost banks should systematically estimate bad and doubtful assets each year. Calculation of risk cost can be made on the basis of asset classification and provisioning norms.

<sup>3</sup> Includes debit balance in float accounts, buildings and other fixed assets.

**2.5.4** Non-interest income – This is the income derived from non-financial assets and services and includes commission and brokerage on remittance facilities, LCs, guarantees, underwriting contracts etc., locker rentals and other service charges. However, items of non-recurring nature such as profit from sale of non-banking assets, when significant should not be included. For the purpose of profitability analysis, non-interest income also is to be worked out per Rs.100 of working funds as follows:

$$\text{Non-interest income (n)} = \frac{\text{Total non-interest income}}{\text{Average working funds}} \times 100$$

**2.5.5** Financial margin – Just as a trading or manufacturing organization arrives at its gross profit to assess its trading or manufacturing activities, banks also ascertain their gross profit. This is also called "Spread" and is computed as a difference between weighted average yield on assets and weighted average cost of funds.

**2.5.6** Burden – The total non-interest expenses representing the transactions costs will generally be more than miscellaneous income. The difference between the two is called burden, as while making a cost plus pricing of loans this difference has to be loaded onto the rate of interest. The concept of burden also illustrates the importance of non-interest or service income of the bank. A high level of non-interest income can not only recover the entire operating cost, it can enable a bank to pay high level of compensation to its employees, as in the case of foreign banks. If the non-interest income of bank is high enough to leave surplus after paying for operating cost, the same can recover a part of the interest cost as well. This means a negative loading in a cost plus pricing scenario. Such strategy is surely highly aggressive and may even prove to be unnecessarily risky.

### 3. Financial margin and profitability

The expression (r-k) is called net interest margin or financial margin, while difference between the amounts of Interest Income and Interest Expenditure is called Net Interest Income. The expression (n-o) is the burden. The financial margin can reduce if the spread declines. If the financial margin is in excess of the aggregate of burden and risk cost, the bank is said to be in profit. The expression net margin is the ratio of profit to average working funds. If the net margin is negative it means that bank is making losses. Profit, expressed in absolute terms may not by itself indicate whether the bank's operations are satisfactory. It is necessary to relate the net profit to the average working funds for analyzing the operational efficiency and profitability of a bank. This is done by using the following formula.

$$\text{Operating margin} = \frac{\text{Operating Profit} \quad (r-k) + (n) - (s+o)}{\text{Average working funds}} \times 100$$

$$\text{NFM/ Profitability (p)} = \frac{\text{Net Profit} \quad (r-k) + (n) - (s+o+rc)}{\text{Average working funds}} \times 100$$

#### 4. Tools of Financial Analysis

**4.1.** There are some widely popular tools of financial analysis. Some of these are discussed hereunder:-

##### **4.2.1** Trend analysis

This is done through comparison of two or more successive balance-sheets and profit and loss accounts, and studying the changes in the various components of assets and liabilities and income and expenditure.

##### **4.2.** Break Even Level Business (BEL)

This is the level of business (in terms of working funds) at which the total income of the bank is just adequate to meet all its costs. It is calculated as follows:

$$\text{BEL} = \frac{(\text{Transaction costs} + \text{Risk costs}) - \text{Non-interest income}}{\text{Net Margin}} \times 100$$

In case the present level of working funds is more than BEL, the bank would be in profit and the actual profit can be arrived at as follows:

$$\text{Profit} = (\text{Actual working funds} - \text{BEL working funds}) \times \text{Net margin}$$

The amount of dividend taken to calculate the average cost of funds, has to be added to the above figure to arrive at the net profit shown in the profit and loss account.

On the other hand, when the present level of working funds is less than the BEL, the loss can be worked out as under:

$$\text{Loss} = \text{BEL} - \text{present level of working funds}) \times \text{Net Margin}$$

Sometimes break-even level is calculated in relation to core business, that is, without considering non-interest income. For this BEL is arrived at by dividing the total operating costs by financial margin (or net interest margin).



### **Factors separation analysis or ratio analysis**

In factor separation analysis all the items or a bank's income statement, - interest income, trading income, other interest income, interest expenditure, staff costs, operating overheads, provisions and profit – are divided by average working funds or average total assets. If we take the ratios for two successive years, the difference between ratios of two years under each item represents the contribution of that item towards profitability (profitability being denoted by profit/total assets). This helps us in identifying what has contributed to or detracted from

### **5. Conclusion**

The break even analysis and factors separation analysis give fair idea of the past performance of the bank. In the light thereof the bank has to diagnose the past, look into the future, anticipate the course of events and prepare strategies for improving the productivity and operational efficiency of the bank. As part of the profit planning, the bank should devise strategies for reduction of costs, maximization of revenues and optimal utilization of all its resources including the human resources.

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