

Cost - volume - profit analysis and banks' performance

A case study of public sector banks

Dr. Rajendra Pandey □ Sanjiban Bandyopadhyaya □

In this paper an attempt has been made by way of break even analysis, to ascertain how margin of safety of banks can be improved. A multiple regression analysis over a 10 year period applied to Public Sector Banks suggests that the most important factors influencing profitability are : operating cost, interests earned & paid and other income. For the banks under study operating cost reduction is the most influential factor for profitability increase.

An attempt has been made to ascertain the factors affecting the profitability performance of PSBs on the basis of Break "Even" Analysis (B.E.A.). It also needs to observe how the margin of safety in a bank can be improved. The factors requiring the profitability as well as the margin of safety of a profit making bank may not be exactly similar to those affecting the profitability and margin of safety of a bank suffering losses. The difference may not be terms of numbers of factors, but the degree of influence exercised by each of them in case of a profit making bank or banks suffering losses. In this study the CVP analysis helps in determining the optimum level of bank's performance. It is extremely useful in profit planning in non-growth or recessionary circumstances. Our study is concerned with the help of data and information for

a 10 year period with reference to all the 27 Public Sector Bank's working in India.

An Overview

The signification of cost and management accounting in banking sector is widely accepted principle. The concept of cost of a product is important for its several decisions needed to be taken from time to time. Banking industry being a service industry, the product of this industry is the services made available to its customers.

A number of works has been done in the context of manufacturing concerns. In spite of the similar cost concept between manufacturing and banking concerns, their application differs in various angles. The cost of funds for a bank is the same as the cost of sales in an industrial undertaking. But there is an important distinction between the costs of banking operation and production processes. Manufacturing cost per unit generally tends to fall as production increases on account of

getting economies of scale in the use of resources. The cost of sales in a bank i.e. its cost of funds is not directly related to the amount of loans which it provides, not necessarily to the rate it changes on industrial loans and overdraft facilities. Cost volume profit analysis i.e. Break even analysis provides a sweeping financial overview of the planning process. It examines the behaviours of total revenues and total costs as changes occur in the output levels, selling price, variable cost and fixed costs. C.V.P. analysis can be used to find out how various variables being considered by a decision maker affecting operating income. The B.E.P. is frequently one point of interest in this analysis. The BEP is that quantity of output where total revenues and total costs are equal. It is a no profit, no loss point. It should be noted, however, that B.E.P. is just incidental in C.V.P. The more significant aspect of the C.V.P. analysis is to examine the effects of changes in costs, volume and prices on profits.

□ Senior Lecturer in Commerce, H. D. Jain College Ara, U.K.S.U., Ara, Bihar.

□ Practising Cost Accountant & Council Member of Eastern India Regional Council

Objectives

The fundamental objectives of this study are :

- (a) the income level where the banks are in profit or no loss position;
- (b) to know the trend of margin of safety of these banks;
- (c) factors affecting profitability margin of safety and;
- (d) methods of improving margin of safety.

Methodology

Our study covers all the public sector banks of India 27 in numbers, for obtaining their profitability performance and to know whether the concept of break even analysis (B.E.A.) can be applied with benefit. The study is based on the published data of these banks for a period of 10 financial year i.e from 1990 to 2000. The tabulation of data is based on the pre-liberalization on policy and post-liberalization as policy period. The relevant data for the study have been collected from the record of public sector banks of India.

The conventional formula for working out the sales at B.E.P. is given below :

$$\text{B.E.P.} = \frac{\text{Total Fixed Costs}}{1 - \text{V/S or P/V Ratio}}$$

For Manu- For Banks' opera-
facturing unit : ting cost interest
 expended total
 income

Where F = Fixed Cost
 V = Variable Cost
 S = Sales

Whenever the B.E.A. is used to the working of banks, the division of total cost into fixed and variable is rather difficult. However, about from the theoretical application of the classification of cost, a discussion with selected executives of certain banks has been of great role to determine the two categories. In

board sense, the interest paid on deposits is taken as variable cost and other expenses which are recorded as operating expenses in the banks are treated as fixed cost.

As we know in case of manufacturing units sales at B.E.P. can be expressed in terms of volume as well as rupee value of sales. Like wise in case of banks the total in case can be divided in to two parts :

- (i) Income from advance and investments
- (ii) Other incomes resulting from ancillary services.

An attempt is more to see that how a bank should conduct its business to remain at B.E.P. level. But it must conduct its business operation such that it may not be lower than B.E.P. level. For this purpose, the requirement of business with regard to various types of advances and investments, corresponding to the B.E.P. level of a bank under this study may be determined. The assumptions underling B.E.A. will remain the same, when tool and techniques are applied for making observations regarding the profitability performance of banks. The impact of RBI regulations needs to be taken into account, in case of advances because they depend upon not only the banks efficiency and level of competition, but also the changes in the polices of RBI affecting composition of advances and also of deposits.

Observation

On the basis of B.E. level of income for 27 PSBs under the study for a period of one decade i.e 1990 - 2K, the following observations are worth notings :

- (i) There is not even a single PSB in whose case the B.E. level income can significantly increase year after year, during the period of study. Like wise, the consistent reduction B.E.

level income during this period is not noticed in the case of any single bank under the study.

- (ii) In the first five years of study i.e. 1990 —94, B.E. level income for almost all banks are not constant and showed fluctuations. During the later five years these have seen steady increase in the B.E.P. level income in almost all banks.

(iii) It appears that same PSBs have been improving their efficiency since 1992 i.e B.E. level incomes as a percentage of total income in the case of SBI was registered at 89.6% in the year 1989 - 90. Which means that enjoyed a margin of safety of just 11% in that year. The bank's performed more efficiently there after and brought down the B.E. level income to 55% of total income of 1989 - 90, resulting inform increase in the margin of safety to 46%. This means that the margin of safety has increase four times within the period of a decade. Like wise, in the case of OBC, the B.E. level income was reduced from 87% in the year 1989-90 to around 47% in the same years.

(iv) The B.E. level income has registered our increase in the case of same PSBs. For example, in the case of Indian Bank, the B.E. level income was registered at 85% in the year 1989 - 90. Which consistently increased in all accounting years thereafter with a peak level of 179% in the year 1997. This mean that the bank's performance has steadily deteriorated and its margin of safety in the year 1989 - 99 was registered almost half the level all end in 1989-90. Obviously the closure of this bank has been recommended very rightly by Confederation of Indian Industry (CII) in their report submitted to Government of India as 13th December 1999.

- (v) Data concerning the B.E.P. level income of 8 of the SBI group banks & how almost consistently

increasing B.E. level income, which on an average amounted to 821 Crs. in 1989 - 90 to Rs. 1766 Crs. in 1998 - 99 more than 200% increases. This means that margin of safety had been declining consistently, the exception being year 1992. The position of remaining 19 non SBI group of banks is worst because its B.E. level income of Rs. 627 Crs. in 1989 - 90 increased to Rs. 1550 Crs. in 1998- 99 almost increase of 270% obviously, all the PSBs together have been performed much less satisfactorily with Rs. 624 Crs. B.E. level income in 1998 - 99 to Rs. 1614 Crs. in 1998 - 99. Thus, the performance of all the banks together is rather poor, which is supported by negative profitability performance during four out of 10 years.

(vi) The impact of various factors on profitability of many banks has been also analysed. It can be observed that :

(A) A change in the profitability of all PSBs under the study can be explained to the extent of 91% (R^2 0.910). The capacity of the factors to explained change in profitability varies greatly. Based on the results of stepwise regression, the influence of factors in order of its capacity to explain change in profitability of banks, indicated as follows :

	R^2 on exclusion
Operating Cost	0.588
Interest earned	0.575
Interest expensed	0.652
Other Income	0.823

(B) In the case of 14 profit making banks, the above factors explain almost 94% changes in profitability of banks. The influential factors in order are :

	R^2 on exclusion
Operating Cost	0.317
Interest expensed	0.360
Interest earned	0.520
Other Income	0.722

The above observations reflect that the management of banks should concentrate on the relevant factors for improving profitability and margin of safety depending upon whether this bank can be classified as profit making or loss incurring.

Suggestions

It is obvious that attempts need to be made to find out how margin of safety of the banks can improvement in total income coupled with any reduction in operating cost can be thought and planned well only when one knows the factor affecting each of them separately.

The profit earning capacity of a bank can be understood in terms of four influential factors; interest earned, other income, interest expended and operating expenses. A multiple regression analysis applied to the statistics related to a 10 year period, all the Indian PSBs afforded results as mentioned above.

It is pertinent to note that the method of improving of improving margin of safety in case of profitable bank may or may not be the same as applicable to loss making bank. A multiple regression analysis on a stepwise basis can lead to the answer. The results of multiple regression analysis suggests that the profitability is influenced by operating, cost interest earned, interest paid and other income. Thus, in general one can conclude that in so far as the banks under study are concerned the reduction in operational cost is the most influential factor and any attempt to increase the profitability of the bank can not succeed without a permanent reduction in operating cost.

The major expenditure is the operating cost is establishment expenses including, ex-employees salary, bonus, etc. Two possible measures to reduce the

establishment cost can be :

(1) use of computers to improve the productivity per employee and in turn reduction of establishment expenses and

(2) schemes like V.R.S. for reducing the number of permanent employees to match with the reducing levels of deposits and advances.

It is interesting to note that the ex-finance minister Dr. Yashwant Sinha favored on after notified V. R. S. for rationalizing man power not only in loss making undertaking, but also in enterprises which are marginally profit making and which need to reduce manpower, to remains variable, but, do not have such rationalization exercise.

Another factor affecting profitability is interest earned on advance is concerned, the major requirements are loan funds. The availability of loan funds in turn is affected by the policy of RBI through the application of SLR and CRR. In general it can be said that a reduction in these factors is likely to bring about an increases of the availability of loan funds and interest earnings. Likewise an increase in the same can have reduction in the advances and interest earned. The growth of advances of a bank can be correlated with the moments of SLR and CRR. A bank's profitability can get reduced because or an increase in the SLR and CRR and vice-venue.

The relationship between CRR and the bank advances is determined at R^2 0.209 whereas the relationship between SLR and the bank advances come to R^2 0.185, which means that the CRR is little more closely related to bank advances than the SLR. However, the combined factors of CRR and SLR have very less than satisfactory close relation with bank advances (R^2 0.213).

Thus, it can be suggested that an

attempt to improve margin of safety by a presently profit earning bank must be focused on operating cost, whereas the presently losing bank's need to make all attempts in reducing the burden of interest payment. The interest payment on deposits has become a burden, because the concerned bank's have not been able to utilize their deposits manfully.

Conclusion

C.V.P. analysis is the best way of making profit plan for PSBs. It does help in getting income level below which the banks will start losing. The knowledge of B.E. level income and also the level of margin of safety will help in designing ways by which the bank's business may not be reduced below the B.E. level and how margin of safety can be improved consistently. This requires knowledge of factors affecting

profitability of bank's. The no. of factors remain the same for a profit earning bank's as well as a losing bank, but the degree of influence with certainly vary. Thus, in order to increase the margin of safety, the respective management should appreciate such variation and concentrate on the most influential factor. Although it is true that the impact of change in CRR can be outside the control of bank management however, prediction of such change may be impossible and it is the efficiency with which the management handles the available loan funds which will determine its survival status in banking industry. It is also possible to find out the level of advances which help in improving the margin of safety by applying the concept of B.E.A. Not only this given the data regarding the costs of

raising funds and the amount of different types of advances of a branch of a bank, it should be possible to work out B.E. level income with reference to every type of advances how much increase in each of them is required to increase the margin of safety to a certain level. The present study also does not reflect the usefulness of B.E.A. because the relevant data and details have not been made available by the branch of the banks under the study. □

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