PART V

COSTS AND MARGINS IN BANK LENDING

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A number of scholars have examined the problem of costs and margins in commercial banking during the last two to three decades, mainly in USA, UK, Germany and Australia. Of late, some scholars have devoted their attention to this aspect of bank lending. While most of scholars abroad and also a few Indian Economists who have considered the cost aspect of banking, have done so to examine the economies of scale in Banking. Sunderland (1) Varde and Singh (2) , and Sharma (3) have dealt with the problem from the view point of bank management. The methodology for computation of cost of funds suggested by Varde and Singh has gained a wide acceptance in the context of Indian banking. Sharma (3) has used a modified methodology of computing the 'cost of lending' and 'margins' in banking . In this study, it is proposed to use Sunderland model the Varde and Singh model(VS model) (11) for computing the cost of funds for lending and use the adapted version of Asset Utilisation Model of Sharma (MDS Model) (8) to compute the weighted yield from various types of advances. The 'margin' in bank lending then would be ascertained by deducting the adjusted cost of funds from the weighted yield on lending under different forms and schemes.

Section V.1 Computational Models

The Cost of Funds : Sunderland Model

One of the most intractable problems associated with a bank costing system is that of locating the cost of deposits to the loans for which they are used. However, this problem
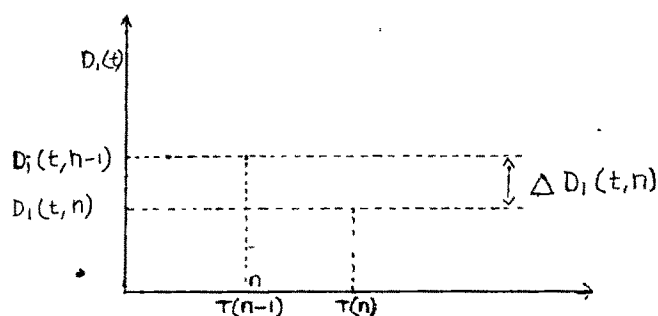
becomes much simpler when looked at in the light of the discussion presented in chapter 2.

Consider the time structure of deposits and define class n to be those funds which are available for a time $T(n-1)$ to $T(n)$. At time t, each deposit grouping i contributes $\Delta D_i(t,n)$ Rupees which fall into class n:

$$\Delta D_i(t,n) = D_i(t,n-1) - D_i(t,n)$$

Time Structure

Summing over all deposit groupings gives a total of

$$\Delta D(t,n) = \sum_i \Delta D_i(t,n)$$

Rupees available for a time $T(n-1)$ to $T(n)$.

Let $alpha_i$ be the cost per Rupee deposit i per unit time. An exact definition of these costs is not necessary here, they cover principally interest and running costs. The cost of the funds $\Delta D(t,n)$ is:

$$\Pi(n) = \frac{\sum_i \alpha_i \Delta D_i(t,n)}{\Delta D(t,n)} \quad \text{per rupee per unit time}$$

where $\Pi(n)$ generally increases with n i.e. long term funds are more expensive than short term funds.

On average, the time structures of total loans and deposits coincide for long term funds and they are always more short term deposites available than are needed. But each loan grouping j requires

$$\Delta L_j (t,n) = L_j (t,n-1) - L_j (t,n)$$

Rupees from a deposit class $\geq$ n.

Thus, $\Delta D(t,n)$ must be allocated to satisfy the demands $\Delta L_j (t,n)$, all j, subject to :

$$\sum_j \Delta L_j (t,n) = \Delta D(t,n) \qquad \text{for large n}$$

$$\sum_j \Delta L_j (t,n) < \Delta D(t,n) \qquad \text{for small n}$$

For large n, there is only one allocation possible. For small n, we shall assume that those funds are first allocated which remain the shortest time.

The cost of funds for loan grouping j can now be written as :

$$U_j = \frac{\sum_n \Pi (n) \Delta L_j (t,n)}{L_j (t)} \qquad \text{per Rupee per unit time}$$

Furthermore, the cost of "excess" funds is :

$$\frac{\sum_n \Pi (n) [\Delta D(t,n) - \sum_n \Delta (L_j (t,n))]}{\sum_i D_j (t) - \sum_j L_j (t)} \qquad \text{per Rupee per unit time}$$

This technique of determining the cost of funds is similar to the "multiple pool" method. Pool n has been defined to contain funds which are available for a time $T(n-1)$ to $T(n)$.

It should be noted that both $\Pi (n)$, the cost of funds in pool n, and U_j, the cost of funds to loan grouping j, vary with time.

Cost of Funds : VS Model

There are various components comprising total sources of

funds for a commercial bank during a period. All these quantities can be measured as averages of the daily balances. Let $S_1, S_2 \ldots S_m$ be m components of sources of funds such that

$$S_1 + S_2 \ldots + S_m = S.$$

Further, let K_1 be the amount of interest paid on component S_1 during the period, K_2 be the amount of interest paid on component S_2, and so on till K_m be the amount of interest paid on component S_m during the period. Thus, $K_1 + K_2 = K$ represents the total amount of interest paid by the bank during the period. Relating amount of interest paid for a particular component to the corresponding quantum (average outstanding) of that component, we get rate of the interest cost of that particular component of sources of funds. Thus, $K_1 / S_1 = K_1$, represents rate of interest cost of the first component of sources of funds; $K_2 / S_2 = K_2$ represents rate of interest cost of the second component component of funds, and so on, till $K_m / S_m = K_m$ represents the rate interest cost of Mth component of the sources of funds. In this formulation,

$$\sum_{i=1}^{m} S_i K_i$$

would represent total interest paid during the period by the bank, K, and

$$\sum_{i=1}^{m} S_i k_i / \sum_{i=1}^{m} S_i = k/s = k,$$

represents overall rate of interest cost of funds for all sources taken together for the bank during the period. These

costs being only the interest costs represent the partial and not the total cost of raising the funds by the bank. Manpower, administrative and other operating costs, or,non-interest costs, need to be added and related non-interest revenue deducted to arrive at the cost of funds for the bank. It would be inappropriate for a commercial bank to treat K_i or k, the rates of interest cost on the costs of funds for funds management excercises, or for other related decision analyses. Doing so would amount to making an implicit assumption that non-interest expenses E_s, are uniformly distributed over all types of sources S_m. If such an assumption was realistic, adding up of these expenses would not have made a material difference. But, this assumption is highly unrealistic. Non-interest costs types of deposits, for instance, differ substantially. Therefore, in order to be accurate it is necessary to add to interest costs of funds the allocated part of non-interest expenses and deduct the related services charges earned from the funds-supplying customers as non-interst revenue. Moreover, it would also not be realistic to assume that $Es_1 = Cs_1$, or $E_s = C_s$, even $E = C$.

Let there be m components of sources of funds, and Es_1, Es_2...Es_m, the corresponding amounts of allocated non-interest expenses, or, the costs, such that $\sum_{i=1}^{m} Es_i = Es$.

Further, let Cs_1, Cs_2,.....,Cs_m be the non-intrest revenue realised from m components of funds such that $\sum_{i=1}^{m} Cs_i = Cs$.

Under the second formulation for the cost of funds, the total cost for the bank during a period would be $K_i + Es_i - Cs_i$

(Where i = 1, 2, ..., m). The (rate for) unit cost of funds for the 1th component of the sources of funds can be obtained by relating the total net cost to the quantum of ith component of sources of funds :

$$k_i = \frac{K_i + Es_i - Cs_i}{S_i}$$

Under this formulation, the (overall net) unit cost of funds to the bank during a period, or, the singular unit cost of funds for all sources taken together is :

$$k^* = \frac{\sum_{i=1}^{m} k_i\, S_i}{\sum_{i=1}^{m} S_i}$$

this when expanded becomes :

$$k^* = \frac{K + Es - Cs}{S}$$

Further, if we define $e_s = Es/S$ as the rate of other expenses or non-interest costs, $c_s = Cs/S$ as the rate of other revenue in relation to all sources of funds taken together, we have:

$k^* = k + e_s - c_s$, where k is the interest cost of funds under the first method.

Adjusted cost of funds

We obtained the cost of funds above under the second method by adjusting the interest cost of funds for non-interest cost and non-interest revenue. These adjustments were functional because they helped in arriving at the cost of funds for a

commercial bank which is fair and logically consistent with the integrated view of funds management based on a single pool of funds and the total coverage of costs and revenues of the bank for the period. There are, however, more adjustments indicated in day to day reasoning. These are neither functional nor otherwise meaningful. But, spelling them out would be helpful in clarifying further the logic of the correct formulation of cost of funds to a bank under the second method above. Therefore, two further adjustments are discussed below under third and fourth methods of computing cost of funds.

A commercial bank keeps raising funds from various sources. Conceptually all these funds enter into a common pool of funds. And, then the rest of the problem of funds management is basically the deployment of these funds or the asset management. This is done in a manner such that the criteria of profitability, liquidity, safety and national priorities for credit allocation are satisfied. However, banks do not enjoy full freedom in this regard. A part of the total funds entering the common pool has to be used for carrying cash reserves and other highly liquid assets including investments in government and other highly liquid assets including investments in government and other eligible bonds and securities. These assets on average earn lower rates of interest compared to what a commercial bank is ordinarily able to earn on its loans and advances portfolio. The same logic can be extended to concessional rate leading to certain

borrowers which are accorded a favoured treatment under national priority guidelines issued by the government or the central monetary authority. In India, a certain percentage of loans and advances is being stipulated for this purpose. As defined earlier, U_1 is deployment of funds for reserve and liquidity repuirement, U_2 is deployment in concessional-rate lending and U_3 is deployment in competitive-rate lending. Let, W_1, W_2 and W_3 represent proportions of deployment in these three components as parts of total deployment, U. As fixed earlier r_1*, r_2* and r_3* are net rates of earning from these three categories of deployment of funds. Since $k*$ is, as formulated above, the overall unit cost of funds for the bank for a period, the rate of profit earned by the bank on its deployment of funds will be,

$$r_1* W_1 + r_2* W_2 + r_3* W_3 - k*.$$

Under the third method, $k*$ is to be adjusted for the opportunity loss arising out of deployment of U_1 amount of funds in cash and liquidity reserves. Since, the net rate of earning from the remaining deployement is,

$$\frac{r_3* W_3 + r_2* W_2}{W_3 + W_2}$$

the quantity

$$\frac{r_3* W_3 + r_2 W_2}{W_3 + W_2} - r_1*$$

W_1 is added to $k*$ to get the adjusted net unit cost of funds to the bank. $k** :$

$$k^{**} = k^* + \left(\frac{r_3 * W_3 + r_2 * W_2}{W_3 + W_2} - r1^* \right) W1$$

In essence, it is mere notional adjustment becuse the rate of profit on funds deployment would still remain the same as under the second method. Since, under this third method, we treat

only $\dfrac{r_3 * W_3 + r_2 * W_2}{W_3 + W_2}$ as the really legitimate net rate of earning from deployment of funds, the rate of profit for the bank

for total funds-deployment would be :

$$= \frac{r_3 * W_3 + r_2 * W_2}{W_3 + W_2} - k^{**}$$

$$= \frac{r_3 * W_3 + r_2 * W_2}{W_3 + W_2} - k^* \quad \left(\frac{r_3 * W_3 + r_2 * W_2}{W_3 + W_2} - r_1 * \right) W_1$$

$$= \frac{r* W_3 + r_2 * W_2}{W_3 + W_2} \quad 1 - W_1 \quad - k^* + r_1 * W_1$$

$$= r_3 * W_3 + r_2 * W_2 + r_1 * W_1 - k^*$$

$$= r^* - k^*$$

which is the same as the rate of profit arrived at under the second method.

We can now under fourth method, further adjust the k^{**} for the opportunity loss arising out of concessional-rate lending, to arrive at k^{***}. The two quantities $(r_3 * - r_1 *)W_1$

representing opportunity loss arising from deployment of funds in cash and liquidity reserves, and $(r_3{}^* - r_2{}^*) W_2$ representing opportunity loss arising from deployment in concessional-rate lending can be added to k* to obain the further adjusted unit cost of funds to the bank:

$$k^{***} = k^* + (r*3 - r_1{}^*) \ W_1 + (r_3{}^* - r_2{}^*) \ W_2$$

Under this method also we treat only $r_3{}^*$ as the legitimate rate of earning from deployment of funds. Therefore, the rate of profit on total funds-deploymentfor the bank would be :

$$
\begin{aligned}
r_3{}^* - k^{***} \\
&= r_3{}^* - k^* - (r_3{}^* - r_1{}^*) \ W_1 - (r_3{}^* - r_2{}^*) \ W_2 \\
&= r_3{}^* (1 - W_1 - W_2) + r_1{}^* W_1 + r_2 \ W_2 - k^* \\
&= r_3{}^* W_3 + r_2{}^* W_2 + r_1{}^* W_1 - k^*
\end{aligned}
$$

This equals the rate of profit under the second method. The only difference is that k*** has been inflated by addition of the two types of opportunity losses: $(r_3{}^* - r_1{}^*)W_1$ and $(r_3{}^* - r_2{}^*) \ W_2$ to the net unit cost of funds, or, the cost of funds, k*, obtained under the second method.

The rate of interest earned on assets and the rates of interest cost of funds, both overall r and k and various respective components r_i and k_i are relevant only for two purposes: for controlling interest revenue and interest cost as parts of income and expenditure control system, and for taking decisions at the bank, industry and national levels in respect of interest-rate structure and policy.

For sources-mix and uses-mix startegic planning and for an integrated funds managemnt model on the other hand, the net rates inclusive of non-interest costs and non-interest

revenues (overall net rate of earning and net rate of cost of funds r^* and k^*, and various respective components r_i) are the only relevant quantities. More particularly, only k^* represents the cost of funds to the bank. Even in cases of some special types of analyses such as the customer profitability analysis, or, the branch profitability analysis, it is the relevant quantity.

For example, in the case of source-mix analysis one can compare in profitability terms various k^*_i and aim at minimisation of k^* or at not exceeding a target rate which is considered satsifactory. However, one can also argue out that depositors are also customers of the bank, and therefore, it could as well aim at giving the best rates to them. Similarly, for asset-mix analysis one can compare in profitability terms various r^*_i and aim at maximisation of r^*, subject of course to constraints of liquidity, safety and national priorities for credit allocation, and, statutory requirements laid down by the central monetary authority.

We have argued for greater relevance of k^* and r^* over k and r on the basis of a realistic assumption. The assumption is that the non-interest costs and revenues are not uniformly distributed over funds-hiring, funds-purveying and ancilliary services of the bank, and, also not over different components of each service category taken separately.

Moreover, it may also be noted that even r_i and k_i and, therefore, r and k as defined in this chapter are effective rates and not the nominal rates. Often one can find people comparing nominal rates, which is no doubt the worst

comparison, because two rates can differ widely on account of different methods of computation followed by the banks. Moreover, these methods are not followed consistently.

We have also assumed in this chapter the common pool of funds approach. We do not consider it functional to link a specific source to a specific use. Any matching of revenues and costs on this basis would render comparisons more difficult. Even if time structures of sources and uses are worked out reasonably accurate, and short funds, for instance are linked with short uses, they would rarely if ever match exactly. Mismatch amounts would keep changing from positive to negative, and, vice versa. Under such conditions the profitability of a particular deployment of funds, say of short-period loans, would keep changing with the sources-mix which is assigned during a particular period to match that use of funds. Sometimes it may all be out of short funds and at other times it may have to be out of medium or long funds as well. Since costs of short and long funds are most likely to differ, the profitability rate of short-period loans would keep chaging with changes in sources-mix assigned to them for the purpose of computation. It would become a volatile quantity and thus render decision making more difficult.

On the other hand, following single pool of funds approach, our formulation assumes all funds from all sources entering the common pool and losing their separate identities before they are deployed. Thus, there is only one overall cost of funds for a bank for a period, k^*. All profitability

comparisons linking costs and revenues have to be in terms of
k* only. Each r_1^* has, therefore, to be compared with a
common cost of funds k*. This makes all such analysis
unambiguous and accurate. One can this way figure out
profitability for each category of deployment of funds. May
be in some cases the cost may exceed the related revenue.
Yet, on other considerations this activity may be continued.
But, then it would carry a sort of subsidy as part of the
policy. And, that needs to be decided as a case of subsidy on
the basis of the appropriate analysis.

Thus, the net rate of profit from the first component of uses
of funds, U_i is $r_i^* - k^*$, that from the second component U_2
is $r_2^* k^*$, and that from the third component U_3 is $r_3^* - k^*$.
Since the proporations deployed in three components are W_1
and W_2 and W_3 respectively, the overall net profit from all
funds deployed and allfunds raised put together is $(r_1^* - k^*)$
$W_1 + (r_2^* - k^*) + (r_3^* - k^*) W_3$ which when expanded equals r^*
$- k^*$. If we add P_A the rate of profit from non-fund services
to $(r^* -k^*)$, we get p, or the profitability ratio for the
bank for a period for all its activities put together.

This formulation takes a total view, Like Bond[13] we do not,
for example accept the concept of return or earnings on or
profitability of deposits or the sources of funds.

We developed two more measures of cost of funds, k** and
k*** in order to highlight the occasionally expressed view
point of the traditionalist who assumes that U_3 is the only
legitimate functon of a commercial bank. They consider, U_1

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and U_2 as unnecessary impositions on commercial banks by the visible hand which result in opportunity losses arising out of inability to deploy all funds under U_3, and therefore, raising cost of funds to the bank for its legitimate clientele. This reasoning is, however, faulty and results in creation on an unwanted complexity. As long as regulations and guidelines applicable to commercial banks are facts of life, a bank does not have an alternative opprtunity to miss and, therefore, the queston of an opportunity loss does not arise. The whole resoning is irrelevant. Therefore, k** and k*** are not only notional but also fictional concepts.

Taking the notional line of reasoning results in inflating and distorting the cost of funds measurement for a commercial bank. There is no good reason for mixing up costs and revenues on this basis and thereby blurring the logical basis for matching revenues and costs. Interest cost, K, is incurred clearly only in respect of funds-hiring services, and, interest revenue, R, is generated from funds-purveying services alone. One relates clearly to the liabilities side of the balance sheet and the other exclusively to the assets side. Therefore, there is no need to accept wrong logic based on criss-cross relationships arising out of unrealistic assumptions.

Moreover, overall unit costs k** and k*** cannot be used for working out net profitibility from different uses of funds. This is because while defining k** we assume that rate of

earning from all uses of funds is
$$\frac{r_3^* W_3 + r_2^* W_2}{W_3 + W_2}$$

while defining k^{***} we assume that rate of earning from all uses of funds is r_3^*. In these two cases earnings from all uses of funds are assumed to be identical for all uses. Therefore, uses of k^{***} will yield identical rates of profitibility from different uses in both cases. These rates of net profitibility would be

$$\frac{r_3^* W_3 + r_2^* W_2}{W_3 + W_2} - K^{**} \text{ and } r_3^* - k^{***} \text{ , respectively.}$$

Both when expanded equal $r^* - k^*$ as the rates of profitibility from different uses should differ. In other words, what is appropriate in such situations is a singular unit cost of funds for the bank to match with plural rates of earnings on different uses of funds.

Therefore, there has to be only one cost of funds for the bank, k^* which ought to be matched with r^* for arriving at ratio of profitibility for the bank as a whole, and with r_1^* for different U_1 to yield different rates of profitibility for different uses. The same basis of comparison needs to be adopted for analysing profitibility of any function, activity, services or customer, or, groups of them; or, for fixing the transfer price for the branches of a bank.

Cost of Lending : MDS Model

The cost of Lending may be arrived at by using the following equations

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$$CL = C_D + C_A$$

where,   CL is the cost of lending;
         CD is the weighted average-cost of Deposits ; and
         CD is the servicing cost of advances.

Cost of Public Deposits (CD)

The cost of funds mobilised by the bank in the form of public deposit (CD) has been computed for Rs. 100/- turnover/balance by,

$$CD = \sum_{i=1}^{2} CD_i \Bigg/ (1)$$

where CD_1 = the interest cost per Rs. 100 of turnover/balance outstanding during the period ; and

CD_2 = the servicing cost per Rs. 100 of turnover/balance outstanding during the period.

The interest cost per Rs. 100 turnover/balance outstanding during the period has been arrived at by using the following equation :

$$CD_1 = \sum_{i=1}^{3} \frac{I_i}{AD_i} W_i , \qquad OR$$

$$= \frac{I_c}{AD_c} W_c + \frac{I_s}{AD_s} W_s + \frac{I_t}{AD_t} W_t \qquad (2)$$

where, I_c = the actual amount of interest paid during the period,

         AD = the average amount of deposits held by the bank during the period;

         W = the weight of a subscripted deposit (%) to

the total deposits;

Subscript

i = c   denotes · Current Deposits held in the current account with the bank, except call deposits and over due deposits;

i = s   denotes deposits held in the Savings Bank Accounts with the bank including debit balances, if any.

i = t   denotes Term Deposits Consisting of all types of deposits which have not been classified as current or savings deposits and which may be with the bank for various terms (45 days to 5 years, usually). Every type of Fixed Deposits (FDs), cash certificates, notice deposits, Recurring / cumulative deposits, etc. are classified as term deposits.

Notes: (i)   Deposits from other banks have also been included for classification under respective category of deposits ;

(ii)   Current Deposits are `interest free' with some minimum balance condition : To arrive at the `balance outstanding', the figures of debit and credit balances (ignoring signs) have been added.

(iii) Averaging has been done on a monthly basis.

The Aggregate Servicing Cost of deposits, could be computed by using the following equation :

$$CD_2 = \sum_{i=1}^{3} Sci/AD_i * Wi \qquad (3)$$

where, CD_2 = the aggragate sevicing cost of the aggregate deposits during the period;

Sci = The sevicing cost of the i th type of deposit, during the period ; and

Wi = The percentage of i th type of average deposits in the aggregate average deposits, during the period.

Subscripts :   i=c=Current Deposits ; i=s=Saving Deposits ; & i=t= Term Deposits.

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To compute the servicing costs of deposits of each type, the following cost components have been identified :

1. Supervisory cost at the branch level;

2. Other staff cost at the branch level;

3. Overhead expenses at the branch level;

4. Staff Cost at the controlling Offices ; and

5. Overheads at the controlling offices.

Thus, service cost for the i th type of deposit can be given by the following equation :

$$SC = \sum_{i=1}^{5} S_t , \text{ where} \tag{3A}$$

where, S represents the cost components, and subscript 't' represents the individual cost heads as defined above at 1 to 5.

Notes :

(i) Branch means all the bank offices maintaining customers' accounts and extending banking services to public, pay offices, sub-offices, extension counters, foreign branches ;

(ii) Controlling Offices means those offices which are exclusively entrusted with the controlling and supervisory functions, such as Regional/Divisional offices, area offices, Zonal/Circle offices, Head Office/Central Office, customer service counters, Grievances Cells/Training Centres, which are attached to the administrative units.

(iii) Supervisory Cost includes the actual establishment expenses incurred during the period on the supervisory staff, which includes all officers in scale I and above and the employees belonging to the award staff permanently performing supervisory functions on a whole time basis. Special category officers have also been included under the

supervisory staff category.

(iv)   Other Staff Cost includes actual establishment expenses incurred - during the period relating to clerical staff and Cashiers/Tellers.

(v)   Overheads include all the expenses **minus** establishment expenses of `supervisory' and `other staff' **plus** establishment expenses relating to subordinate staff.

(vi)   In case of staff (except subordinate staff) attending to more than one activity, the proportion/percentage of time devoted to servicing the activity, has been considered for computing the cost.

Servicing Cost of Advances (CA)

The Servicing Cost of advances (CA) may be calculated by using the following equation :

$$C_A = \sum_{j=1}^{5} C_j / AA_j * W_j \qquad (5)$$

where,

C_A = the servicing cost of average total advances (weighted);

C_J = the servicing cost of advances for the period of the jth type of Advances;

AA_j = the average balance of the j th type of advances;

W_j = the percentage (%) of j th type of advances to the total advances;

ubscripts

         j = 1 denotes Small Scale Industry Advances (SSI),
         j = 2 denotes Agricultural Advances,
         j = 3 denotes other Priority Sector Advances,
         j = 4 denotes Commerical Industrial Advances, and
         j = 5 denotes all other advances, not covered under J=1 to j=4.

Notes :
     (i)   Advances to SSI(j=1) include both direct and indirect finance;

(ii)   Advances to Agriculture (j=2) include all direct
         and indirect finance provided to the agriculture
         sector. Direct finance comprises short ter ,
         medium term, and long term loans extended to
         farmers for meeting the production and
         development needs in agriculture. Indirect
         finance comprises loans to organisations or
         institutions or agencies engaged in prividing
         services or facilities to agriculturists, such as;
         Electricity Boards, Fertilizers distribution
         organisations, PACS, FSS, Spraying organisation,
         co-operative organisations, etc.

(iii)   Other priority sector advances (j=3) include all
         types of advances to the proirity sector except
         j=1 and j=2 (which also belong to the priority
         sector).

(iv)   The C & I Advances (j=4) refer to all non-priority
         sector advances granted to medium and large scale
         industrial units and traders; and

(v)   The catagory of 'Other Advances' (j=5) covers
         personal loan and all other advances or loans,
         including loans to bank employees, and not covered
         under j=1 to j=4.

To compute the servicing cost of each type of advance and of

the total advances, the equation used for servicing cost of

deposits has been adopted as

$$C_j = \sum_{t=1}^{5} St, \text{ where} \qquad (6)$$

S represents the Cost Components 1 to 5, and subscript t

indicates the individual cost heads, as defined and

elaborated under equation (3).

Earnings On Funds Deployed

In order to ascertain the `margins' and `profitability' of

fund-based activities, it is necessary to find out the actual

earnings on the funds deployed in the form of different

assets. As per the regulatory provisions at the time for

which the data has been collected, commercial banks in India were obliged to :

(i)   Keep 3 percent of theri aggregate deposits with the Reserve Bank of India (Central Bank of the country) on which the Reserve Bank of India did not pay any interest. This may be called `Basic Cash Reserve Requirement (CRR)';

(ii) Over and above basic CRR, banks were required to keep additional funds equivalent to 9 percent of their aggregatre deposits with the Reserve Bank of India on which the banks were entitled to get interest.

(iii) Over and above the CRR, scheduled commercial banks were required to maintain liquid assets equivalent to 38 percent of their aggregate deposits. This provision is known as SLR.

(iv) The regulatory provisions, directed towards meeting the social banking objectives, for credit deployment, required that,

(a) 40 percent of the total advances must be Priority Sector Advances;

(b) 25 percent of the total priority sector advances or 10 percent of total advances must be directed towards weaker sections of the society;

(c) 17 percent of total bank credit must be provided as direct finance to agriculture and allied activities; and

(d) 1 percent of total bank credit must be for DRI (Differential Rate of Interest) beneficieries at 4 percent interest per annum.

(v) The interest-rate structure relating to advances has been prescribed, on a uniform basis, for all the scheduled commercial banks and individual banks have no freedom to deviate.

(vi) Further, banks should ensure a minimum credit-deposit (C/D) ratio of 60 percent at the rural and semi-urban branches.

The above policy measures constrain the ability of bank managements in India to either determine the interest rates for the advances or even structure their assets to have a higher share of high yielding assets in their portfolio. Still, within this uniformly applied regulatory frame, some banks have demonstrated higher profitability than others, of course, may be due to their superior expenditure and cost controls and better asset management. However, the fact remains that statutory and regulatory controls adversely affect the profits, profitability and margins of banks. Keeping in view the above, in the following paragraphs, an attempt has been made to ascertain the `earnings on funds' in the identified bank, which will enable us subsequently to compute the `profits' and `profit margins' on the fund-based operations of the bank.

To ascertain the average weighted earnings on bank funds, the fund-based assets of the banks have been classified into the

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following categories :

1. Cash balances / Till Money

2. CRR — (a) 3% basic, and

          (b) Additional

3. Investment in banking assets

4. Advances

   (a) Agricultural (b) SSI (c) Other PS (d) C & I, and (e) Others.

The assets numbering 1 to 3 above may be designated `Liquid Assets' as, by and large, the ratio of these assets in the total banking assets, is governed by the statutory and regulatory controls. The five types of advances under the category (4) assets may again be divided into two groups, viz., priority sector advances (comprising SSI, Agriculture and other PS advances) and non-priority sector advances which include C & I advances and All Other Advances. The earning power of all these banking assets identified and classified above differ from each other significantly. Accordingly, the earnings on `Liquid Assets' and on `Advances' have been computed separately.

Earnings on Liquid Assets

The basic computational model for determining the earnings of liquid assets (E_L) is given as,

$$E_L = EC + ER + EI, \qquad (7)$$

where,   EL   is the earnings on liquid assets (aggregate),
            EC   is earning on Cash balances with the bank to meet the daily working needs called `till money' and may be computed by the following method :

$$EC = (ic/WC * 100) \qquad (7A)$$

where, ic is the amount of interest earned on cash balances, which is always Zero.

WC is the cash balance, and

EC is always zero

ER is the average weighted earnings on the CRR (basic + Additional) and may be calculated by -

$$ER = (i1/WR_1 * W^1 + i2/WR_2 * W^2) \qquad (7B)$$

where, i1 = is the interest earned on basic CRR, &

i2 = is the interest earning on additional CRR.

W^1 = is the percentage of baisc CRR to the aggregate amount of CRR.

W^2 = is the percentage of additional CRR to the aggregate amount of CRR.

WR1 = is the amount of funds under basic CRR

WR2 = is the amount of funds in additional CRR.

EI is the average aggregate earnings on Investments, computed by,

$$EI = \sum_{j=1}^{n} i_j/W_j \ W^{wj} \qquad (7C)$$

Where, W_j = is the amount of funds invested in jth type;

i_j = is the interest earned on jth type of investment.

W^{wj} = is the percentage of jth type of investment in the total investments.

Note : Under the SLR, investments must be made in unencumbered government and other approved securities only. Thus, the weighted yield on `Liquid Assets' as a whole may be computed by the following integrated model :

$$EL = ic/WC*100 + i_1/WR_1\ W_1 + i_2/WR_2\ W_2 + [\sum_{j=1}^{n} i_j/W_j\ W^{wj}]$$

Earnings on Advances

Earnings on advances may be worked out by the following method :

$$EAD = EA + ES + EP +. EI + EO, \tag{10}$$

$$\text{where, } EAD = \sum_{i=1}^{5} I_i/A_i\ W^i \tag{11}$$

where,   EAD is the weighted avereage interest earned on total or aggragate advances;

    I is the amount of interest earned on ith type of advance;

    A_i is the average amount of advance of the ith type;

    W is the percentage of ith type of advance to total advances.

Section V.2 Computation and Analysis of Non-Interest Operating Costs

The non-interest operating costs in respect of each one of the functions and services have been computed on the basis of,

     (i) Cost per transaction/voucher, and

     (ii) Cost per 100 monetary units turnover

       or average balance.

In most of the earlier studies, costs per unit of output has been calculated on 'per account' basis. However, costs per account have also been computed in this study as banks maintain 'accounts' for deposits and advances/loans. However, in respect of most of the ancilliary services, there are

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no accounts. The quality of accounts is always different in terms of costs due to differences in the number of transactions related to them. As costs are flow variables, these must be computed on flow output only for getting the correct results. Both, 'transactions during a period 'and 'turnover/average balance during a period' are flow statistics and are therefore better measures.

This exercise is based on FAC (Full Absorption Costing) approach and all the costs, direct as well as overhead, have been assigned to different activities. The FAC approach, in this exercise, reflects the actual cost of performing different activities, taking into account not only the branch level costs but also the cost incurred by controlling offices. In computing costs, the cost of funds have not been included in the total cost, as our purpose has been to ascertain the servicing costs or operating costs of services. Also, there are a large number of services where bank funds are not employed directly. Since, both 'fund based' and 'non-fund based' activities have been considered in disaggregating the bank firm into services, it was desirable to exclude the cost of funds. Further, the interest rate structures on mobilisation of funds and deployment of funds are officially prescribed for commercial banks in India, the scope of cost reduction under that head did not appear to be much and to control and reduce total operating costs, banks have adequate scope only in the field of operating or servicing costs of carrying on activities. As such we have computed cost for

ancillary .

The non interest cost of each lending related function and each ancillary activity have been computed by

$$Sc = \sum_{t=1}^{5} St \qquad (1)$$

Where,   Sc = the activity servicing cost,

               S = the cost of components, and

Subscripts :   t1 = the actual cost of supervisory staff at the branch level,

               t2 = the actual cost of non-supervisory staff at the branch level,

               t3 = overhead cost at the branch level,

               t4 = Staff costs of the controlling offices, and

               t5 = overheads at the controlling offices.

The weighted average cost of a function, having more than one activity, have been computed by

$$Sf = \sum_{h=1}^{m} \frac{\sum_{r=1}^{n} K(h,r) \; W(h,r)}{W(h)} \qquad (2)$$

Where,   Sf   = weighted average cost of a function,

        K(h,r)   = Cost of activity 'r' under given head 'W'

        W(h,r)   = Weight of entries for activity 'r' for head 'h',

          n   = Maximum number af activities for a given function

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$$m = \text{Maximum number of cost heads for computation}$$

In this exercise, the actual cost of servicing have been ascertained and the question of considering the opportunity costs has not been entertained.

Analysis of Operating Costs of Lending

1. Bank-wise and Region-wise

The main purpose of this analysis has been to ascertain the operating costs of all such functions and services that constitute a bank firm and present them in respect of each bank. Also, due to socio-economic-cultural differences in the rural, semi-urban, urban and metropolitan areas, it has been considered appropriate to extend the scope of this excercise and ascertain the costs of functions and services, separately in different regions. Accordingly, the costs incurred by bank branches located in different regions have also been computed. Thus, the cost-data provided in this work should enable the users to understand the weighted average costs of various activities in respect of the bank as a whole (BW) as well as for the culturally different regions.

2. Distribution of Costs over Functions

In order to ascertain the relative importance of various lending functions and services in the total operating costs in commercial banking during the reference period, the average total costs of all the sample banks taken together have been computed and distributed over all the services. The percentage share of each of the functions and services have been as given below.

Table V.1

Percentage Distribution Of Total Operating Costs

Over Different Functions

Activty codes	Share in total costs (%)	Activity codes	Share in total (100)
F1	32.68	F9	2.49
F2	28.64	F11(+12)	5.17
F3(+5+6)	13.52	F14(+7+8+10+13)	8.77
F4	08.83		

Note: Activity codes given in the appendix

The above analysis reveals that servicing costs of Deposits and Advances, together, account for more than 61 percent of the total operating costs of commercial banks. As in practice, the service charges are not levied by banks in India on deposits-advances related services (except a minimum balance requirement of Rs.500/- in current deposit accounts), this cost is a burden on the Interest-spread (Interest earned - Interest paid during a period). If the interest spread is less than the amount of these costs, banks suffer a loss in performing these functions, which are core and inevitable functions of commercial banking. Hence, banks have to focus their attention on cost reduction measures for these two functions. For all other services, banks levy service charges on per transaction basis (minimum) and on volume basis (amount involved). It should therefore be easy for them to price the services after considering the costs involved and the expected volume of business, in respect of each function.

3. Analysis of Cost Components

Banks cannot control or reduce their costs unless they exactly know which components of the total cost in each function is the major cost factor. Accordingly, cost data have been analysed to depict the percentage share of each cost component in the total, for each function. The analysis has been done for all the three banks separately. For this purpose, the total operating costs in respect of each function and service have been bifurcated into:

(1) branch level costs, and

(2) controlling offices' costs.

The 'branch level costs' have been further divided into 'Direct Costs' and 'Branch overheads'. This analysis of costs for each of the sample banks is given in Exhibits 7 to 9. A perusal of the analysis reveals that in all the functions performed by commercial banks, the Direct costs at the branch level are between 42 per cent to 46 per cent of the total costs. The 'branch overheads' account for 40 per cent to 44 per cent of the total costs. As 'branch' is the 'control point' for all services provided by a bank to its customer, it is the 'direct branch level cost' which should be significantly more than the 'overheads'. However, the situation does not appear to be so and it is felt that the 'overheads' are relatively higher. Further, the 'controlling office' costs should also be considered 'overheads' as these do not in general vary with changes in the number of service transactions or with the volume of funds transacted. If we add the 'controlling office costs' with 'branch overheads'

and treat them as 'total overheads' they account for about 55
per cent to 60 per cent of the total costs, which prima faci
appears unreasonably high. A comparison of 'overheads' across
the regions is made to ascertain if there is a significant
difference in the 'share of overheads in total costs' across
the four regions, viz.,metropolitan, urban, semi-urban and
rural. The mean t values are given in Exhibit-1.

Exhibit-1

Comparison of 'Overheads' Across Regions: Volume Costs

MEAN t - VALUES

	BANK A	BANK B	BANK C
1. METRO-URBAN (M-U)	0.3494	0.0131	0.1128
2. METRO-SEMIURBAN (M-SU)	0.2597	0.0295	0.1791
3. METRO-RURAL (M-R)	0.2049	0.0454	0.4514
4. URBAN-SEMIURBAN	0.2066	0.0493	0.0689
5. URBAN-RURAL	0.2606	0.0685	0.3908
6. SEMIURBAN-RURAL	0.0834	0.0178	0.3478

Tabulted value of t statistics : d.f = 46, 5% = 2.014, 1% = 2.290
It may be observed that in all the comparisons, the t values
are not statistically significant. This shows, that
'overheads' are the major cost factors, irrespective of the
locations.

4. Cost Correlations

To understand the relationship among the different costs,
structural correlation coefficients have been computed across
the banks, the regions and the activities. These correlations
have been computed separately for 'costs per transaction and
costs per hundred monetary units turnover'. Inter-

correlations between the two have also been computed to examine how far the costs on these two basis are correlated among themselves. The predefined-structures in terms of activities remains invariant over banks as well as regions. The results are given in exhibits 2 & 3.

Exhibit-2
Structural Correlations

REGIONS	VOLUMES				TRANSACTIONS			
	METRO	URBAN	SEMIURBAN	RURAL	METRO	URBAN	SEMIURBAN	RURAL
BANK A								
METRO	1.00				1.00			
	***				***			
URBAN	0.966	1.00			0.609	1.00		
	***	***			***	***		
SEMIUR	0.997	0.978	1.00		0.688	0.821	1.00	
	***	***	***		***	***	***	
RURAL	0.992	0.989	0.998	1.00	0.699	0.887	0.959	1.00
BANK B								
METRO	1.00				1.00			
	***				**			
URBAN	0.727	1.00			0.460	1.00		
	***	***				***		
SEMIUR	0.774	0.979	1.00		0.339	0.937	1.00	
	***	***	***					
RURAL	0.829	0.979	0.974	1.00	- 0.096	0.036	0.347	1.00
BANK C								
METRO	1.00				1.00			
	***				***			
URBAN	0.974	1.00			0.914	1.00		
	***	***			***	***		
SEMIUR	0.975	0.977	1.00		0.970	0.951	1.00	
	***	***	***		**	***	***	
RURAL	0.944	0.990	0.949	1.00	0.544	0.820	0.655	1.00

Note: One two and three stars indicate level of significance at 10% , 5% and 1% respectively.

Exhibit - 3

Correlation Between Volume And Transaction

REGIONS	BANK A	BANK B	BANK C
METRO	-0.160	0.029	0.130
URBAN	-0.054	-0.030	-0.013
SEMIURBAN	0.042	-0.057	-0.062
RURAL	-0.013	-0.098	-0.098

The following main findings emerge : (1) The cost per hundred monetary units turnover are highly correlated across the regions in all the three banks; (2) the cost per transaction show strong correlation between rural and semi-urban regions in Bank-A, between urban and semi-urban regions in Bank-B and between semi-urban and metropolitan regions in Bank-C. The rest of the correlations are relatively poor; and (3) Correlation between service costs per transaction and per hundred monetary units turnover shows no relationship, uniformly for all the three banks.

5. Anova

To ascertain the cost variances across the banks, regions and activities, ANOVA has been done; the results are given below.

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Exhibit - 4

Analysis of variance for service cost per voucher

Source of Var.	Sum of Squares (SSQ)	Degrees of Freedom (DF)	Mean Sum of Sq. (MSQ)	F Value
Banks(A)	1.51E+05	2	7.57E+04	.48
Activity (B)	3.52E+06	6	5.87E+05	3.57*
Regions (C)	1.10E+06	4	2.75E+06	1.76
Interact. Banks Activity (A.B)	1.65E+06	12	1.38E+05	.88
Banks Regions (A.C)	4.87E+05	8	6.09E+04	.39
Activity Regions (B.C)	2.65E+06	24	1.10E+05	.71
Error	7.52E+06	48	1.56E+05	-
Total	1.71E+07	104	-	-

Analysis of variance for service cost per 100 turnover

Source of Var.	Sum of Squares (SSQ)	Degrees of Freedom (DF)	Mean Sum of Sq. (MSQ)	F Value
Banks(A)	1.39E+07	2	6.98E+06	83.46**
Activity (B)	1.70E+08	6	2.84E+07	340.10**
Regions (C)	4.95E+05	4	1.23E+05	1.48
Interact. Banks Activity (A.B)	8.37E+07	12	6.98E+06	83.50**
Banks Regions (A.C)	6.69E+05	8	8.36E+04	1.00
Activity Regions (B.C)	2.97E+06	24	1.23E+05	1.48
Error	4.01E+06	48	8.36E+04	-
Total	2.76E+08	104	-	-

Note: One and two asterisks indicate significance at .01 and .05 levels.

The ANOVA reveals that (1) for costs per transaction the variance across the activities is significant at 1 percent

level of confidence; (2) for cost per 100 monetary units turnover, the variance is significant across the activities at 1 percent level of confidence; (3) in both the measures, cost variance in regions is not significant.

Section V.3 Behaviour Of Total Costs And Margins In All Public Sector Banks

After examining the Cost of Deposits, Cost of Lending and Margins in respect of the Bank identified for the case study, It is now proposed to ascertain the costs and margins in Bank Lending taken all the Public Sector Banks' aggregate data. The behaviour of the Costs and Margins in Lending during a period 1983 to 1987 is examined below:

Behaviour Of Costs And Margins

1. Cost of Rs.100 of deposits

Trends in Cost of Deposits for the period 1983 to 1986 is as under :

	1983	1984	1985	1986
Cost of Deposits	6.93	7.12	7.36	7.51

Looking to this trend and considering the fact that during the year 1987, the ratio of time deposits to total deposits increased from 80.6 per cent to 83.6 per cent and also there has been considerable increase in the share of NRE/FCNR deposits, the estimated cost of deposits for the year 1987 would be around 7.75 per cent.

Thus,

Interest Cost of Rs.100 of Deposits   : Rs. 7.75   (1)

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Servicing Cost of Rs.100 of Deposits : Rs. 1.44 (2)

(As per the results of Uniform Costing

Exercise for the year 1987 (see table))

Total Cost of Rs.100 of Deposits : Rs. 9.19 (3)

2. Profitability of Investment Operations

The trend in yield on Investment for the period 1983 to 1986

is as under :

	1983	1984	1985	1986
Yield on Investment	6.77	7.21	7.95	8.76

The increasing trend in the yield on ivestment is mainly

attributed to increase in coupon rates on Central Government

Securities to 11.5 per cent during the period 1985-86 and

also increase in rates of interest on state Goverment

Sercurities and bonds and debentures of term lending

institutions to 11 per cent.

Though the increasing trend will continue because of 'shift

operation', the slope is expected to taper down. Based on

this, the estimated yield on investment for the year 1987

would be 9.30 per cent.

Thus,

Yield on Rs.100 of Investment : Rs. 9.30 (4)

Less Total cost of Rs.100 of Deposit : Rs. 9.19 (3)

Net return per Rs. 100 of Investment : Rs. 0.11 (5)=(4)-(3)

Thus present rate of net return on investment is just near

the break-even stage. However, the present accounting system

to calculate yield on investment does not include the loss

due to depreciation on investments, the provisions for which,

in general, are not made by the banks. Thus, if provision for depreciation on investment is considered, net return from such deployment would be negative.

3. Profitability of C R R Operations

At present, on the 3 per cent of Cash Balance maintained with RBI, no interest is earned by the banks. On the remaining balace, Reserve Bank pays interest at the rate of 10.5 per cent. During the year 1987, the CRR balance to be maintained for Rs.100 of deposits worked out to about 12 per cent (10 % on net DTL + 10 % on incremental DTL). The average rate of return on CRR balance would therefore be worked out at (3 x 0 + 9 x 10.5) / 12 = 7.87. Thus,

Return on Rs.100 of CRR balance : Rs. 7.87 (6)

Less Total Cost of Rs.100 of Deposits : Rs. 9.19 (3)

Net return on Rs.100 of CRR : Rs. -1.32 (7)=(6)-(3)

This indicates that overall net return from CRR balance is negative.

4.Profitability of credit Deployment

The trend in average return on advances during the period 1983 to 1986 are as under :

	1983	1984	1985	1986
Yield on Advances	13.72	13.59	13.55	13.42

Considering the facts that (i) during the year 1987, there has been a reduction in the interest rate for all advances earning more than 15 per cent, (ii) the ratio of food credit to total credit declined from 9.1 per cent in 1986 to 4.2

per cent in 1987 and (iii) Ratio of Direct Agriculture advances to total advances increased from 15.8 per cent to 17 per cent the estimated yield on advances will work out at 12.70 per cent.

Thus,

Gross yield on Rs.100 of advances   : Rs. 12.70 ... (8)

Less Servicing Cost of Rs.100 of   : Rs. 1.86 ... (9)

advances (As per the results of the

Uniform Costing Exercise for the year

1987 [see table])

Therefore,

Net yield on Rs.100 of advance   : Rs.10.84 (10)=(8)-(9)

Less Total Cost of Rs.100 of Deposits: Rs. 9.19 (3)

Thus Net return per Rs.100 of advs.   : Rs. 1.65 (11)=(10)-(3)

Apparently deployment as credit remains a viable proposition. However, this rate of net return is grossly inadequate to take care of capital risk which is inherent in any lending procedure. However good the credit administration may be, atleast 1.5 per cent to 2 per cent capital risk is inherent and the interest rate structure must take care of atleast 2 per cent as capital risk.

Thus, if full provision is to be made towards bad and doubtful debts which is essential to ensure the long term viability of the system, deployment of funds as credit also appears to be non-profitable. The extent of loss will vary according to the quality of loan portfolio.

5. Profitability of the Credit deployment through refinance

Refinance is one of the important aspects of the credit policy. After depositists, it is the most important source for funds. The general impression is that the credit deployed through refinance is profitable. It would therefore be of interest to look into this aspect also. The analysis of rates of return on the credit for the sectors for which the refinance is generally available indicates that the net spread of such funds varies from 2 to 5 per cent. So the average net spread may be taken as 3.5 per cent. At the same time sector-wise data on cost of servicing the advances indicates that the sectors for which refinance is available, the cost of credit administration is very high (see table 1). The average cost of servicing in these areas works out to about 3 per cent.

Thus,

Net spread on Rs.100 of Refinance
deployed as credit   :Rs. 3.50 (12)

Less Average servicing cost for
Rs.100 of such advances   :Rs. 3.00 (13)

Net return on Rs.100 of
such advances   :Rs.0.50 (14)=(12)-(13)

Again, this rate of return is grossly inadequate to take care of any capital risk, as such if reasonable provisions are to be made, credit deployment through refinance also becomes non-profitable.

Future outlook on profitability and corrective measures

The analysis presented above, though based on estimated data, clearly indicates that the entire gamut of our fund-based business has become loss making, and whatever profit is recorded at present is at the cost of long term viability of the Banking system. Further the analysis is based on the situation as prevailing during the year 1987. The current situation has deteriorated further, primarily due to the following two reasons:

1. Wage revision of bank employees, which has increased the annual salary burden by about Rs.450 crores.

2. Increase in the credit guarantee premia as a result of which the annual premia burden of the Banking Industry has been estimated to increase by about Rs.400 crores.

Increase in expenses on the above counts is expected to bring down further the effective net return from various avenues of deployment of funds. As regards the cost of deposits and average yield from various sources, there has not been any major change in the interest rate structure. On the contrary the mix of business has further deteriorated, which has made the situation worse.

Now coming to corrective actions to be initiated to improve the situation, and thereby to ensure the viability of the system, one can suggest three possible alternatives :

1.Improve the overall efficiency and ensure large scale cost reduction so that servicing cost per Rs.100 of business is reduced.

2.The pace of social banking should considerably be slowed down.

_3.Make suitable changes in the credit policy especially in respect of interest rate structure, keeping viability of the Banking system as the basic objective.

Comming to first alternative, it may be appreciated that there is now very little scope to economise on staff expenses since fresh recruitment has already been restricted to 1/1.5 per cent per annum, for the last 3/4 years. As regards other expenses, they are directly proportional to general inflationary trends in the economy and hence will continue to rise.

Coming to the option of slowing down the pace of social banking, it may be stated that the pace of branch expansion has already been slowed down and further retardation is not possible/desirable. As regards other important aspects of social banking viz.

i) Removal of Regional imbalances in the matter of deployment of credit,

ii) Increasing credit flow to semi-urban and Rural Sectors,

iii) Achievement of stipulated targets of priority sector and its sub-sectors.

We have to state that though the quantitative expansion in these directions during the last 15 years have been phenomenal in respect of achievement of the stipulated

targets, still there is a long way to go. Also from qualitative point of view the performance leaves much to be desired. Further, the socio-political environment will not permit any slowdown in the pace of Social Banking.

Thus, the only possible alternative left is to make necessary changes in the credit policy in general and interest rate structure in particular, by making viability of the Banking system as the central issue. In other workds, the deployment of resorces in respect of all fund-based business has to be made by a viable, though cross-subsidisation cannot be ruled out altogether.

Table 1 - Average Service Cost Per Rs.100/- Outstanding In Respect Of Fund-Based Activities Of Banking Industry For The Period 1985-87.

ACTIVITY	BANKING INDUSTRY		
	1985 Rs.	1986 Rs.	1987 Rs.
I. DEPOSIT (ALL)	1.64	1.53	1.44
Current	3.18	2.90	2.67
Savings	2.66	2.60	2.54
Time	0.68	0.61	0.56
II. ADVANCES (ALL)	1.95	1.91	1.86
S.S.I.	2.74	2.64	2.16
Agriculture	3.14	2.82	2.84
Other P.S.	4.08	4.00	4.08
Ind. & Trade	0.65	0.71	0.64
Other	2.74	2.53	2.57

Based on revised data