This chapter deals with the regression analysis of the factors influencing profitability of the urban cooperative banks.
The betterment, growth and survival of an organisation/a banking institution is fully dependent upon its profits earning ability. A higher profitability is an index of an efficient utilisation of various resources. A sufficient amount of profits is a must for every organisation so as to function smoothly and successfully and the urban co-operative banks are no exception to it. However, the profit making is considered to be the secondary for the urban co-operative banks. The prime objective of the urban co-operative banks is to render a variety of services more efficiently to their members in particular and to the public at large in general. Notwithstanding, it is equally essential for the urban co-operative banks to earn at least a reasonable amount of profits to ensure a fair return on the capital contributed by the members as well as to progress in their operation. Towards this end, an attempt is made to analyse the variables that are influencing the profitability of the urban co-operative banks.
The regression coefficients of the selected profitability variables are estimated for the five urban cooperative banks. The computed regression coefficients for all the banks are presented in the Table 6.1 (Appended at the end of this Chapter). The regression coefficients of the variables are analysed and discussed separately for each bank as under:

6.1 **GOA URBAN CO-OPERATIVE BANK LTD.**

A rupee increase in each of the variables viz., the interest rate spread and the non-interest income leads to increase in the annual net profits by Rs. 0.33 and Rs. 0.40 respectively. On the contrary, a rupee increase in each of the expenses variables viz., manpower expenses, other expenses and the overdue interest and doubtful debt provisions, brings down the annual net profits by Rs. 0.19, Rs. 0.58 and Rs. 0.46 respectively. The value $R^2$ indicated that all the five explanatory variables jointly accounted for about 90 percent variation in the net profits of the bank pointing out that the profitability variables selected were significant. It was further observed that the interest rate spread and the non-interest income are positively associated with the annual net profits as an increase in these two variables leads to a rise in the annual net profits. On the other hand, the manpower expenses, other expenses and the overdue interest and
doubtful debt provision variables are found to have had a negative effect on the annual net profits as an increase in these expenditure variables leads to a reduction in the profits. Further, in between the interest rate spread and the non-interest income variables, the non-interest income profitability variable is observed to have a more closer association with the profits as it has a greater influence on the profits as compared to the interest rate spread variable. On the other side, among all the three expenses variables, the other expenses variables is found to have had a more negative influence on the profits followed by the overdue interest and doubtful debt provisions.

6.2 MAPUSA URBAN CO-OPERATIVE BANK LTD:

A rupee addition to each of these variables viz., the interest rate spread and the non-interest income brings up the annual net profits by Rs. 0.71 and Rs. 1.55 respectively. In contrast, a rupee hike in each of these variables viz. the manpower expenses, other expenses and the overdue interest and doubtful debt provision leads to a reduction in the annual net profits by Rs. 0.70, Rs. 1.02 and Rs. 0.69 respectively. The value $R^2$ hinted that all the five profitability variables together accounted for about 86 percent deviation in the annual net profits. The interest rate spread and non-interest income variables were noticed to be explicitly connected with
the annual profits as an increase in these variables certainly supplements
the profits. Whereas the manpower expenses, other expenses and the
overdue interest and doubtful debt provision variables were observed to be
negatively related to the annual net profits as a rise in these variables
results in a reduction in the net profits. It is further disclosed that in
between the interest rate spread and the non-interest income variables, the
non-interest income variable is found to have a more influence on the
profits. On the other hand, among the expenses variables, the other
expenses variable is observed to have a more negative effect on the profits
followed by the manpower expenses and the overdue interest and doubtful
debt provision variables respectively.

6.3 MADGAUM URBAN CO-OPERATIVE BANK LTD:

A rupee rise in each of the variables viz. Interest rate spread and
the non interest income leads to augment in annual net profits by Rs. 1.07
and Rs. 0.85 respectively. On the contrary, a rupee expansion in each of
the expenses variables viz. the manpower expenses, other expenses and the
overdue interest and doubtful debt provision, declines the annual net
profits by Rs. 0.62, Rs. 2.14 and Rs. 0.88 respectively. The R² value
illustrated that almost 99 percent fluctuation in the annual net profits is
determined jointly by the five variables. The interest rate spread and the
non interest income variables are found to be closely intimated with the annual net profits as an increase in each of these variables enlarges the profits. While the remaining variables were observed to have a negative consequence on the annual net profits as an increase in these variables weakens the size of net profits. Further, the interest rate spread variable is noticed to have influenced the profits to a larger extent as compared to the non interest income variable. While among the expenses variables, other expenses variable is noticed to have effected the annual net profits more adversely followed by the overdue interest and doubtful debt provisions.

6.4 WOMEN COOPERATIVE BANK LTD.:  

An addition of one rupee to each of these variables viz., the interest rate spread and the non interest income supplements the annual net profits by Rs. 0.87 and Rs. 0.99 respectively. In contrast, a rupee increase in each of these expenses variables namely, manpower expenses, other expenses and the overdue interest and doubtful debt provisions, leads to bring down a quantum of annual net profit by Rs. 0.49, Rs. 0.98 and Rs. 1.00 respectively. The $R^2$ value manifested that all the five profitability variables together accounted for 99 percent deviation in the annual net profits. The interest rate spread and the non interest income variables are observed to have associated positively with the annual net profit as an
increase in each of these variables has led to accelerate in the annual net profit. On the contrary, the remaining three expenses variables were found to have had a negative nexus with the annual net profit as any hike in each of these variables resulted in declining in the annual net profit. It is further noticed that the non interest income variable has a better association with the profit as compared to the interest rate spread variable. On the other hand, the overdue interest and doubtful debt provision variable is observed to have affected the size of the profitability more adversely followed by other expenses and manpower expenses variables. The coefficients of determination \( (R^2) \) is observed to be very high with regard to all the selected variables in case of all the banks and F-value shows that the \( R^2 \) is significant for all the variables.

6.5 CITIZEN COOPERATIVE BANK LTD.:

Each of the interest rate spread and the non interest income, goes up by one rupee results in an increase in the annual net profits by Rs. 1.03 and Rs. 1.00 respectively. On the other hand, a hike in each of these variables viz. Manpower expenses, other expenses and the overdue interest and doubtful debt provisions by a rupee leads to reduce the size of annual net profits at the pace of Rs. 1.04, Rs. 1.06 and Rs. 1.07 respectively. The value of \( R^2 \) demonstrated that about 99 percent variation in the annual net
profit is decided together by the five variables. A close nexus between the annual net profit and both the variables namely interest rate spread and the non interest income was noticed as both the variables have equally affected the annual net profit positively. Whereas the remaining three expenses variables were observed to have influenced negatively the annual net profits as a rise in each of these variables resulted in a reduction in the net profits. It was further revealed that all the three expenses variables with a slight variation equally affected adversely the volume of annual net profit.
Table 6.1
Factors Influencing Profitability of Urban Co-operative Banks

<table>
<thead>
<tr>
<th>Sr.No</th>
<th>Name of the Bank</th>
<th>Estimated Regression Coefficients</th>
<th>Bo</th>
<th>B1</th>
<th>B2</th>
<th>B3</th>
<th>B4</th>
<th>B5</th>
<th>R2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Goa Urban Co-op. Bank</td>
<td></td>
<td>38.7712</td>
<td>**0.3298</td>
<td>-0.1879</td>
<td>**-0.5769</td>
<td>0.3979</td>
<td>**-0.4556</td>
<td>0.89</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(2.8242)</td>
<td>(0.9804)</td>
<td>(2.8102)</td>
<td>(0.4092)</td>
<td>(2.0606)</td>
<td>(87.61)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Mapusa Urban Co-op. Bank</td>
<td></td>
<td>18.4640</td>
<td>*0.7055</td>
<td>**-0.7021</td>
<td>***-1.0202</td>
<td>1.5536</td>
<td>*-0.6850</td>
<td>0.86</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(4.5165)</td>
<td>(3.1048)</td>
<td>(1.6371)</td>
<td>(1.2146)</td>
<td>(4.6812)</td>
<td>(63.12)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Madgaum Urban Co-op. Bank</td>
<td></td>
<td>0.6232</td>
<td>*1.0693</td>
<td>-0.6236</td>
<td>**-2.1398</td>
<td>0.8534</td>
<td>*-0.8843</td>
<td>0.98</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(10.560)</td>
<td>(1.272)</td>
<td>(2.105)</td>
<td>(0.199)</td>
<td>(9.905)</td>
<td>(873.54)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Women Co-op. Bank</td>
<td></td>
<td>0.6057</td>
<td>*0.8562</td>
<td>*-0.4897</td>
<td>*-0.9810</td>
<td>*0.9873</td>
<td>*-1.0034</td>
<td>0.99</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(33.667)</td>
<td>(3.703)</td>
<td>(15.786)</td>
<td>(15.934)</td>
<td>(104.635)</td>
<td>(38304.17)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Citizen Co-op. Bank</td>
<td></td>
<td>-0.0378</td>
<td>*1.0392</td>
<td>*-1.0350</td>
<td>*-1.0633</td>
<td>*0.9996</td>
<td>*-1.0659</td>
<td>0.99</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(21.620)</td>
<td>(11.113)</td>
<td>(6.427)</td>
<td>(5.386)</td>
<td>(13.139)</td>
<td>(19183.86)</td>
<td></td>
</tr>
</tbody>
</table>

Source: Yearwise Annual Reports of the Banks for the period from 1985-86 to 1996-97

Note:
1. B1, B2, B3, B4 and B5 represent Regression Coefficients of independent profitability variables of X1 = interest rate spread; X2 = Manpower expenses; X3 = other expenses; X4 = Non-interest income and X5 = overdue interest and doubtful debt provisions respectively.
2. *, ** and *** denote statistically significant at 1%, 5% and 10% level respectively.
3. Figures in parenthesis both in Regressions coefficients and in R2 are T-value and F-value respectively.
4. Number of observations used are 12.