CHAPTER VI

ANALYSIS OF DATA : TECHNIQUES AND SEGMENTS : II

In the previous Chapter (I.e. Chapter V) the relationship is examined between the factors which need to be looked into while taking lending decision, with reference to segment, factors and bank. An attempt is also made to examine how the application of management accounting techniques differ with reference to segment, specialization of that branch to particular segment, total advances of the branch or volume of business.

As discussed in Chapter III the detailed questions follow with reference to each technique i.e. Q. 7A to Q. 7F.

In the present Chapter, it is proposed to examine the depth of application of technique. Here each question of each technique is analysed. In addition to this as stated in Chapter III, the cases which are put in the questionnaire will be discussed here alongwith each technique. Over and above examining the percentage of correct answer to cases developed in the questionnaire, a further study is also made to examine the extent of relationship between the affirmative answer to the utility/application of the aspect (within technique) and the case (where in this aspect need be seen).

The techniques under study are : business plan, break even analysis, method of costing, funds flow, cash flow, budget and

analysis of financial statements or ratio analysis. As stated in Chapter II budget is not included in detailed questions, for the reasons stated there.

Moreover, an attempt is made to estimate the relationship between the problem credit and the application of various management accounting techniques, both in total and with reference to particular segment, on the basis of available data.

The present Chapter is divided in two sections. The Section-I deals with response of various respondents to the questions in detail dealing with management accounting techniques and Section-II deals with the aspect of monitoring, follow up and problem credit.

SECTION I

MANAGEMENT ACCOUNTING TECHNIQUES

This section examines the depth of application of various management accounting techniques.

A. BUSINESS PLAN :

Amongst the various techniques under study this is the technique where the number of respondents are highest. This is because the projections have become so common in the banking world that in case any borrower comes, the lending officer will be tempted to ask, what is your plan ? What you intend to do ? or "Why are you going into this project/business ? and this gives

very important clues to the lending officers. This may be the reason for highest respondents for the technique of business plan.

In order to examine the various aspects of the application of business plan while taking lending decisions, seven sub questions have been put to the respondent.

i. Importance of business plan for new business :

The importance given to business plan particularly in case of new business is dealt with by Q.7A(i). It is observed that 98.05% of the respondents gave affirmative answer to this implying thereby the significance of the technique.

The views of persons dealing with big proposals at regional offices of large size public sector banks also support this view.

ii. Judging correctness of the plan :

The emphasis given to judge correctness of plan is dealt with by Q.7A(ii). This is required to be examined considering the fact that it is quite possible that the proposed borrower may give "rosy pictures" as commented by majority of the branch managers and they remarked that the plans and figures are adjusted in such a way that sometimes it becomes very difficult for them to plug the loopholes in the plan. Still, an attempt is generally made to verify critically whether the plans are developed correctly or not.

In response to this question it is observed that 99.03% of the respondents replied that the care is taken to judge whether plans

are developed correctly or not. In the interviews with the appraising officers at region offices of large public sector banks they have opined that this care is taken.

An extension of Q.7A(ii) is Q.7A(iii), which states the factors to be taken into consideration to judge whether plans are developed correctly or not. While analysing these factors it is observed that 100% of the respondents stated that "demand of the product" need be seen or considered while taking lending decision for proposed borrower. The next factor which is given importance is "availibility of raw material". As explained in Chapter III this factor is very critical for the success of the organisation and this has been realised by the bankers. 95.15% of the respondents said that this factor need be considered to judge the correctness of the plan. The next importance is given to the factor "cost of production." This correctness of factor is very important to ensure the correctness of profitability projected. It is observed that 92.23% of the respondents stated that this factor need be considered to judge the correctness of the business plan. The next importance is given to the factor "units of that industry in that area." This factor is very important from the point of view of competition. And recognising the importance of this, 86.41% of the respondents stated that this factor need be considered to judge the correctness of the plan.

The next factor is "accessibility of raw material". This refers to easy availibility of raw material in the nearby area. This has a direct impact on the transportation cost and lead time

and thereby on the carrying cost. Here also 75.73% of the respondents stated that this factor need be taken into account while taking lending decision. Amongst the given factors the least importance is attached to the factor "spread of that industry all over India". Obviously this factor need not be given as high an importance as that of factors like demand of the product or availibility of raw material. As discussed in Chapter III, this factor becomes important in case of industry for consumer durables. And here it is observed that 45.63% of the respondents stated that this factor should be taken into consideration while taking lending decision.

In brief it may be said that while judging correctness of plan submitted by borrowers the demand for the product plays the significant role, which is followed by availibility of raw material and further followed by cost of production. The least important factor amongst the factors under consideration is spread of that industry all over India.

When interviewed for this particular question the appraising officers at region offices of large public sector banks stated that all these six factors need be looked into, however, the highest weightage is to be assigned to the demand of the product.

iii. Quantified business plan :

The quantified business plan is very important to judge correctness of the plan and this was inquired into by Q.7A(iv). The quantification of the business plan represents the 'budget' as

such. The business plan which is just the statements of ambitions can't be taken as base for lending decision. At the time of discussion with bank officers, the concept of quantified business plan was required to be explained at many places. Analysing the total responses, we have come to know that about 75.73% of the respondents said that this quantification aspect need be considered while taking lending decision.

Here also the appraising officers at regional office of large public sector banks have given affirmation.

iv. Periodicity of business plan :

How far in future the lending officer wants to have a look is equally important and this is inquired into by Q.7A(v). Here, the information is collected regarding the period for which business plan is demanded.

The responses are very much varied here. The options given to respondents were, 1 year, 2 years, 3 years and more than 3 years period for which business plan are demanded. It is observed that some of the respondents have given two responses depending on the type of loan; or facility to be provided to the proposed borrower. Hence, for the purpose of calculation of percentage representing the number of years for which bbsiness plans are to be sought for, higher number of years are considered.

Accordingly, about 4% of the respondents complied that the business plan are being sought for one year, about 9% of the respondents stated that business plan are being sought for two

years, about 56% of the respondents stated that the business plan are being sought for three years and about 31% of the respondents stated that the business plan are being sought for more than three years. The respondents stating that business plan need be looked into for more than three years also stated that the business plan are being demanded for the period of repayment of term loan. About 49% of the respondents stated that the business plan are being sought for one year in case of working capital and small loans, whereas, it is required for three years or more when the facility to be provided to the proposed borrower is that of term loan. One percent of the respondent stated that for renewal of working capital limit business plan is required for two years, whereas for other facility or for fresh working capital advance, the business plan is required for a period of three years, or more. About 5.88% of the respondents stated that whereas for the purpose of lending decision for term loan the business plan is required for more than three years, for the purpose of lending decision for working capital, business plan is required for three years.

The appraising officers at regional offices of large public sector banks stated that business plan are being sought for a period of more than three years.

v. Importance given to current economic situation and future economic trends :

The emphasis given to current economic situation is examined by Q.7A(vi). The reason for putting this question is already

discussed in Chapter III. It is observed that 87% of the respondent stated that this factors need be considered. No response was received for 2.94% of the total respondent. Here also the response of officers at regional offices of large size public sector banks was found to be affirmative.

The emphasis given to future economic trends is examined by Q.7A(vii). Here it is emphasised that not only the current economic situations are to be given importance, but future economic trends also need to be considered. On analysis it is observed that about 62% of the total respondents have not complied. Out of those who complied 77.5% of the respondents are of the opinion that future economic trends need be considered.

From all above responses to the main important tool viz. business plan, of management accounting dealing with the decision aspect of management, it can be said that, so far as the bankers are concerned there exists a good amount of awareness about the utility and application of this tool to the important portfolio of advances in the banking sector.

β. BREAK-EVEN-ANALYSIS :

Coming to the discussion of second management accounting techniques, viz. the break-even-analysis, the application of this technique in lending decision and the depth of application of this technique is examined. To examine the extent of application of this technique, hypothesised cases are also developed and an attempt is made to bring it to near real situation and by each case,

an attempt is made to examine one specific aspect of break-even-analysis. Case 1 and case 2 eventhough looking alike, there is a difference in particular aspect. Here whereas case 1 emphasises only difference in contribution, case 2 emphasises both difference in contribution per unit as well as the time difference and quantity difference in achieving break-even level. Case 3 examines the percentage of installed capacity at which break-even point is reached, case 4 examines the implication of margin of safety, case 5 and case 6 examine the same aspect of probability. These two cases were developed to simplify the matter, and case 7 is put to examine the aspect of sensitivity analysis.

i. Application of technique to various types of organisation :

This aspect is examined by Q.7B(i) to Q.7B(iv) analysis

Q.7B(i) examines the application of break-even-analysis to established customer having on going organisation. To such organisations the application of break even analysis is very low because the break even point is to be found at the inception of the organisation, to find from which year the organisation will start earning profit.

The analysis of response shows that only 45.83% of the respondents opined that this technique need not be used, when the organisation is the established and on going one, whereas 54.17% of the respondents stated that this technique need be used even when the customer was established one and the organisation was on going one. This incorrect reply may be on account

of the reason mentioned by many respondents that "eventhough the organisation is ongoing but when it has reached break even level is very important. Therefore, this should be looked into, but they didn't came out with an argument that it is looked into at the inception.

The application of break even analysis to still three different types of borrowers is examined by Q.7B(ii), Q.7B(iii) and Q.7B(iv). These borrowers are (a) known borrowers proposing to start a new organisation (b) new borrower having established organisation and (c) new borrower proposing to start a new organisation. So far as these three types of customers or borrowers or organisations are concerned, the break-even-analysis should be applied.

So far as known borrower is concerned it is of use to verify whether the break-even point was reached at a projected level or not. In the case of new borrower the level of attainment of break-even level is very important for lending banker.

On analysis of responses it is observed that 7.62%, 10.48% and 6.67% of responding sample have not responded for Q.7B(ii), (iii) and (iv) respectively. Majority of the respondents gave a true reply i.e. this technique need be used. For Q.7B(ii) 94.85% of the respondents stated that this technique need be used. For Q.7B(iii) and Q.7B(iv), 84.04% and 95.92%, respectively, of the responding sample stated that this technique should be applied.

On interviewing the appraising officers at regional offices of large public sector banks, answers to all 4 questions mentioned above are found to be consistent with expectations i.e. for Q.7B(i) the answer is 'No' and for Q.7B(ii), (iii) and (iv) the answer is 'Yes'.

ii. Various factors with reference to break-even-analysis :

Certain factors need to be looked into while applying the break-even-analysis, and this is examined by Q.7B(v). Three factors which are considered to be key factors for analysis of break even point are pointed out here. These factors are :

(a) percentage of total capacity at which break even point is reached (b) number of years that organisation will take to reach break-even level and (c) proportion of fixed cost and variable cost.

The importance of these factors is already discussed in Chapter on questionnaire and hence the same is not repeated here. From the analysis of responses it follows that, the percentage of non-response was higher than the percentage of non-response for the previous four questions. Accordingly, for the first factor the percentage of non-response is 19.05%, for the second factor the percentage of non-response is 17.14% and for the third factor, the percentage of non-response is 21.9%. Out of those who have responded majority of them responded that these factors needs be looked into. Accordingly 91.76% of respondents stated that the first factor viz. percentage of total capacity at which

break even point is reached, be looked into; 91.95% of the respondents stated that the second factor viz. number of years that organisation will take to reach break-even level be looked into and 91.46% of the respondents stated that the third factor viz. proportion of fixed cost and variable cost be looked into.

Further an attempt is made to examine (a) the number of respondents who stated that all three factors need be looked into (b) number of respondents who stated that only two factors out three be looked into and (c) number of respondents who stated that only one factor be looked into.

While taking this into consideration, it is focused that 56.25% of the respondents stated that all three factors be looked into. 30.20% of the respondents stated that only two factors out of three be looked into. Here, out of 30.20% of the the respondent 13.54% stated that it is the first and second factor which should be looked into (i.e. percentage of total capacity at which break-even point is reached and the number of years that organisation will take to reach break even point), whereas 8.33% of the respondents stated that it is first and third factor that need be looked into (viz. percentage of total capacity at which break-even point is reached and proportion of fixed cost and variable cost) and the same percentage i.e. 8.33% of the respondents stated that second and third factors should be looked into. Only 13.55% of the respondents stated that only one factor out of three be looked into. Here, out of 13.55%, 3.13% stated that first factor

be looked into, 5.21% stated that second factor be looked into and the same percentage stated that third factor be looked into.

The appraising officers at region offices of large size public sector banks also stated that all three factors be looked into.

The above response reveals that there exists a good amount of awareness amongst the lending officers about the factors which should be taken into consideration while applying break-even-analysis.

Response to hypothetical cases :

Before we discuss views of respondents to various cases, it is necessary to explain various assumptions which are made while developing these cases. Here while developing the assumptions support was derived from assumptions built-up by A - Rashad - Abdel - Khalik in his article 'The Effect of Aggregating Accounting Reports on the Quality of the Lending Decision - An Empirical Investigation."[1]

The assumptions which are made for hypothetical cases are as follows :

a. "Your bank has very scarce resources and you are supposed to sanction advance to only one of the following proposed borrowers".

This assumption is put on the consideration that in the cases developed in the present study, the two proposed borrower's data

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1. A - Rashad - Abdel - Khalik : 'The Effect of Aggregating Accounting Reports on the Quality of Lending Decesion - An Empirical Investigation", Empirical Research in Accounting Selected Studies, 1973, p. 137.

are very nearer to each other and it is quite possible that the respondent may decide to sanction or not to sanction loan to both of them. And this has happened during the course of discussion with the branch managers. However the intention is to examine which aspect of proposed borrower is being given importance, when, there is another similar applicant borrower.

(b) "No other factor/policy/applicable laws compel the bank to sanction advance to any proposed borrower".

This assumption is put keeping in view the targets to be completed for priority advance DRI etc. i.e. had this assumption not been put it leaves the ground open for the respondent to give conditional reply giving grounds for higher interest rate available or completion of target. Hence to put the two proposed borrowers at par and to examine the issue on which light is being thrown, this assumption is put.

(c) The third assumption is : "These are the only two loan applications pending in the branch's file."

Looking to the processing time involved and taken at a branch level, this seems to be a very ideal situation. However, to avoid the argument "if better proposal than their case studies are on hand at branch, they will be entertained and not this", this assumption is put forward to get an answer for one borrower out of the given two.

d. "Rate of interest recoverable from both these proposed borrowers is equal." This is the fourth assumption. The reason for putting this assumption should be very clear. As there exists interest rate variation, naturally the aim of any business is to maximise profits, [illegible], the bankers will be tempted to entertain the proposals to which they can charge higher interest. To avoid [illegible] this situation this assumption is incorporated.

e. "Both the units belong to same industry." This assumption is very important because the boom and recession are different for different industries, apart from the overall economic trend. Hence, if this end is kept open, the respondents may come out with an argument that proposal has to be viewed in the light of industrial atmosphere. To avoid this argument, above assumption is put forward.

f. "Both have requested for term loan of an equal amount".

The loan proposal is appraised on the basis of the facility, which is sought for and the amount for which request is made by the proposed borrower. To avoid this differentiation this assumption is put forward.

Discussion of Case : 1 :

In order to economise space the hypothetical cases developed for the present study are not reproduced here. All cases are discussed in detail in questionnaire (Appendix No. I).

Viewing the case critically it is seen that both proposals are similar in many aspects :

a. The installed capacity of both the borrowers is equal.

b. Sales price charged by both the borrowers is equal.

c. The break-even point is also reached by both the borrowers at the same level.

d. The sales pattern is also same over a period of time for both the borrowers.

The only difference which can be seen between these two borrowers is that the fixed cost burden is different for both and the variable cost per unit is different for both of them.

The question is to whom the loan will be sanctioned by the respondent.

The aim here is to examine the extent to which the respondents have digested the impact of factor "Proportion of fixed cost and variable cost".

The correct answer for this is the sanctioning of loan to the proposed borrowers 'A' because once the break even point is reached, profit (contribution) per unit is higher for the proposed borrower A as compared to the proposed borrower B.

Analysing the results of Case 1, it is observed that 59.78% of the respondents stated that the advance should be sanctioned to

the proposed borrower A and 40.22% of the respondents stated that the advance should be sanctioned to the proposed borrower B, i.e. majority of the respondents analysed correctly to whom the loan should be sanctioned.

In the second part an attempt is made to establish the relationship between the correct response to the third factor of Q.7B(v) viz. "proportion of fixed cost and variable cost" and the correct response to the case. For this purpose the phi-coefficient has been worked out, between the two.

The formula to be applied is same as discussed in Chapter V. This phi-coefficient is found to be 0.2401922. When examined for its significance at 5% level of significance, the value of χ^2 is found to be 4.326915 which is found to be significant. This indicates that those who state that factor "proportion of fixed cost and variable cost" be looked into also gave true reply.

The views of appraising officers at regional offices of large size public-sector banks are found to be in favour of borrower B, stating the reason that borrower 'B' has lower fixed cost and investment immediately required in such a case will be lower. One of the appraising officer at large size public sector bank stated that if demand loan is to be given, it will be given to A and if working capital advance is to be given it will be given to borrower B.

Discussion of Case - 2 :

This is almost the same as that of the Case 1. The only differences are for the proposed borrower B, for whom the variable cost is reduced by Re.1 and made Rs.24/- per unit from Rs.25/- per unit and the fixed cost is changed to Rs.158400/-, from Rs. 1,50 000 as in case 1. On account of these two changes break-even point for borrower B is reduced and it has come down to 9900 units from 10,000 units. Now, if a comparision is made of the break-even point for proposed borrower A and B, the break-even point of the borrower A is higher as compared to the borrower B i.e. the borrower A takes more time to reach break-even point as compared to the borrower B. Hence the borrower 'B' should be preferred. However, the further analysis shows that once the break-even level is reached the contribution per unit is higher for the proposed borrower 'A', hence in the subjective opinion of the respondent the correct answer should be to sanction advance to the proposed borrower 'A'. On analysing the response for case 2 it has been observed that for norms 51.76% stated that proposed borrower 'A' should be given the loan and 48.24% stated that the proposed borrower B should be given the advance.

When answer as per the subjective view is scrutinized, it is observed that 57.32% responded for the proposed borrower A and 42.68% responded that advances should be sanctioned to the proposed borrower 'B'. As explained in the previous para so far as the subjective view is concerned, the correct reply is the sanctioning

of advances to proposed borrower 'A'. Thus from the percenta of respondents for 'A', it follows that nearly 60% of the respondents stated correct answer.

Here when one compares the proposed borrower 'A' and the proposed borrower 'B', one sees that, unlike case 1 here not only the proportion of fixed cost and variable cost is different but the percentage of installed capacity at which break-even point is reached and the number of years that organisation will take to reach break-even point are also different.

For establishing the relationship between the factors presented by Q.7B(v) and answers to case 2 by phi-coefficient one should have 'Yes' or 'No' for the main question viz. 7B(v). In Q.7B(v) there are three factors. Hence, for considering answer 'yes' we have to take respondents who have said 'yes' for all three factors. Now those who have said 'yes' for one or two factors but 'No' for two or one factor cannot be put in category "N", and hence it was very difficult to establish relationship of (yes yes), (yes, No), (No, yes) and (No, No) between reply to Q.7B(v) and case 2. Hence this relationship could not be established.

When the response of appraising officers of large public sector banks are examined to case 2, the answer as per norms and as per the subjective decision is towards the borrower A. The reason given was there are no mandatory norms that the borrower reaching to break-even point at early stage be given loan and hence looking to over all profitability the loan decision should be taken.

Discussion of Case 3 :

This case is specifically developed to study the importance given to the factor, the percentage of installed capacity at which the break even point is reached. For example, if break even point is reached at 70% of the installed capacity, it implies that the profit is earned only during working in excess of 70% and generally the 100% of the installed capacity level is not reached. The maximum achievement generally ranges between 90% to 95% of the installed capacity.

Hence, here in case 3, four different situations are developed and each situation has two borrowers. An attempt is made to examine the correctness of responses. Here the determination of true answer is made on the principle "ceteris paribus the lower the percentage of installed capacity at which break even point is reached the better."

It may be noted that in no situation out of four, the break even point is reached later than 55.55% of the installed capacity. In the first situation, the borrower A reaches the break even point of 50% and the borrower B reaches it at 55.55% Obviously a banker should prefer the borrower A. So far as situation 2 and 3 are concerned eventhough the percentage of installed capacity at which the break even point is reached are different the borrower B attains the break even point at lower percentage of installed capacity as compared to the borrower A and hence the borrower B should be preferred. So far as situation 4 is concerned

the borrower A reaches the break-even point at an earlier stage than the borrower B does, hence the borrower A should be preferred.

Analysing the response to these four situations it is observed that the percentage of correct response for situation 1 was 85.88%, for situation 2 was 79.49%, for situation 3 it was 81.82% and for situation 4 correct answer was received for 82.05% . This indicates that for all four situations the percentage of correct answer is to a very high extent and this indicates that there exists good awareness amongst the lending officers, so far as this aspects concerned.

When looked into the responses of the appraising officers at regional offices of the large public sector banks it is observed that the correct answer is given to all four situations.

iii. Margin of safety and lending decision :

Q.7B(vi) intends to examine the utility of concept of 'Margin of Safety' at the time of taking lending decision i.e. at the time of sanctioning the loan.

The importance of this question is discussed in the Chapter III hence the same is not repeated here. The analysis of response shows that 82.76% of the respondents said that this concept of margin of safety is useful, only 17.16% of the respondents stated that this concept is not useful while taking lending decision. It may be noted that 33.33% of the responding sample did not respond to this question and hence the percentage mentioned above are those of respondents.

Discussion of Case - 4 :

The case 4 reveals that unlike case 1 and 2 the sales pattern is different for two proposed borrowers. The other data regarding two proposed borrowers are same as those of case 2. The sales pattern is kept different only with a view to emphasising the margin of safety. Here the case discusses the margin of safety in terms of units and in terms of amount. In terms of units the borrower A has higher margin of safety, whereas in terms of amount, the borrower B has higher margin of safety for years 2 and 3, however from year 4 the borrower A has higher margin of safety. This higher margin of safety is inspite of the lower number of units sold or lesser projections of sales as compared to that of the borrower B. Now if the borrower A is not expecting to fall down as compared to the borrower B to a considerable extent the borrower A will account for higher profit consistently from year 4 an wards. Considering the above aspect, sanctioning the loan to borrower A is considered to be correct answer.

The analysis of the responses leads to the following observations :

i. The number of non-response in this case is lower than the main question. This percentage of non-response is found to be only 14.29%.

ii. The percentage of correct answer is found to be 67.78%.

Here, also the appraising officers at regional offices of large public sector banks stated the loan decision in favour of the borrower A and this is congruent with our expectation.

An attempt is made to relate the true answers to Q.7B(vi) and the true answer to case 4. i.e. the study is made to find out correlation between the answers to Q.7B(vi) and to case 4; and for this purpose only those respondents who are common for both can be taken and hence number of respondents for whom relationship can be established will be reduced. For those who have replied to Q.7B(vi) but not to case 4, and those who have not replied to Q.7B(vi) but have replied to case 4, the relationship cannot be found out. Hence, only 64.76% of the total responding sample could be used for establishing this relationship. The relationship is found with the use of phi-coefficient. The phi-coefficient is found here to be -0.0169193. On applying the test of significance, it is further noticed that this negative relationship is found to be insignificant.

Thus eventhough the percentage of true answers is more than 50% for both, i.e. Q.7B(vi) and case 4, the negative insignificant relationship is observed.

Q.7B(vii) is the otherside of Q.7B(vi); because Q.7B(vi) states about use of margin of safety at the time of sanctioning the advance, Q.7B(vii) states about use of the same at the time of deciding repayment schedule.

The analysis of response to Q.7B(vii) shows that the non-response to Q.7B(vii) is lower than the non-response to Q.7B(vi). It is only 11.43%. Out of those responding, 81.72% of respondents stated that the margin of safety need be considered at the time of fixing the repayment schedule.

Here the appraising officers at regional offices of the large public sector banks stated that the margin of safety need be looked into while fixing the repayment schedule.

As this Q.7B(vii) is also connected with application of margin of safety and the case 4 also intends to examine the same thing, a like Q.7B(vi) and case 4, here also an attempt is made to estimate the relationship. Here, all the respondents for case 4 could be utilised except 1, to estimate the relationship. When phi-coefficient calculated to estimate the relationship between Q.7B(vii) and case 4; it is found to be 0.0181566, which is very low and also statistically insignificant. Thus we donot find any relationship between reply to Q.7B(vii) and case 4.

iv. Introducing probability and sensitivity analysis to break even analysis

Q.7B(viii) is about the use of statistical test of probability. The break even point is mainly related to an inquiry about the level at which the unit will start making profit. This can be accurate only if reality aspect of probability (chances) is incorporated in the analysis. This question was included with a view to examining the awareness amongst the respondents about this aspect.

On analysis of the response it is observed that 20% have not given any response to this particular question. Out of those who have complied 48.81% responded that this statistical test of probability is being used to get clear idea about the level of

sales and deviations in profitability level, whereas 51.19% responded that this is not being used.

Here the appraising officers at regional offices of large public sector banks stood with the majority stating that the statistical tool of probability is not being used evenwhile appraising the big proposals. The data are taken static and hence the further response to two cases is not received from them.

With a view to have clear idea about the clarity of concept to respondents two cases are developed viz. case 5 and case 6.

Here the probability of profit being greater than 0 is same for both the proposed borrowers. The mean quantity of sale (12000 units) and standard deviation of quantity (1100 Units) and same. The resulting mean profit and standard deviation in profit eventhough different, the coefficient of variation is same and finally the probability of profit being greater than '0' is also same for both the borrowers. Hence, the decision has to be taken based on considerations other than the use of statistical test of probabicity. And as the borrower 'A' has higher contribution he should be preferred. Considering the loan decision, in favour of the proposed borrower 'A' to be the correct reply the analysis of responses is carried out and it is observed that the percentage of non-response is very high. Here 68.57% of the responding sample has not responded i.e. only 31.43% of the responding sample has responded for this case. Out of the

respondents, it has been observed that 78.79% gave the true reply i.e. majority of the respondents were aware as to who should be sanctioned the advance, only 21.22% stated that advance should be given to borrower 'B' which is the incorrect reply.

Discussion of case - 6 :

First of all let us discuss what is the correct answer. Alike case 5 the mean and standard deviation quantity are same in case6, however, the mean profit and standard deviation is profit are different (this is also so for case 5). Further to this the c.v. which is same in case 5 for both the proposed borrowers is different here and further to this the probability of profit being greater than 0 is also different for both the proposed borrowers. Naturally the proposed borrower who has probability of profit being greater than '0' is higher, is to be favoured as against the other. Here in the present case probability of profit being greater than 0 is higher for borrower 'B'. Hence, the correct answer for analysis of this case 6 is considered to be borrower 'B'.

On analysis of responses to the case, it is observed that 73.33% of sample have not responded to the case and it has been stated at the time of discussion with the respondents that they have no idea about this. Out of the balance respondents around 26.67%, it has been observed that 50% gave the correct answer and 50% gave the incorrect answer. This indicates that even amongst those who have responded to this case, there does not exist, the accurate awareness.

Further to this an attempt is also made to examine the relationship between those who say that they make the use of statistical test of probability to get a clear idea about sales and profitability level and the correct answer to the case.

While examining the relationship between Q.7B(viii) and case 5 it is observed that phi-coefficient is negative. The value of phi-coefficient comes to -0.0413449. On applying the test of significance, the χ^2, it is found that the value of χ^2 is 0.0547008. This value is lower than the table value. This shows that the reply to Q.7B(viii) and reply to case are independent of each other, i.e. there does not exist any significant relationship between the two.

An attempt is also made to estimate the relationship between Q.7B(viii) and case 6. Unlike the relationship between Q.7B(viii) and case 5, here the relationship is found to be positive and the value of phi-coefficient is 0.278571. The value of χ^2 is found to be 2.0952486, which is less than the table value. This shows that eventhough the relationship is found to be positive the same is insignificant i.e. there does not exist any significant relationship. between the reply that 'statistical test of probability' is being used to have a clear idea about the level of sales and deviations in profitability level. and correct decision taken for a given case.

In Q.7B(ix) the respondents were required to state about the use of sensitivity analysis to determine the effect on profit

of various factors. In this question the respondents were required to state only 'yes' or 'No' about the use of the same.

On analysis of response it is observed that 28.57% of the sample have not responded to this question. Out of the balance, 37.33% of the respondents stated that this analysis is being used and 62.67% of the respondents stated that this analysis is not being used.

Here the appraising officers at regional offices of the large public sector banks stated that this sensitivity analysis is being used while taking lending decision.

To examine the understanding of this aspect a case was developed. To make the situation more real, the aspect of probility and aspect of sensitivity analysis should be introduced together. However considering some exigencies these two things were not clubbed in the same case and hence in the case the aspect of sensitivity is only examined.

In the case here, three situations are given : in situation 1 the fixed cost is assumed to increase, in situation 2 variable cost is assumed to increase and in the situation 3 sales price is assumed to increase. In general profit will be affected by four criteria, variations in fixed cost, variable cost, sales price and volume of sales. The volume of sales is generally assumed to be increasing by the organisations, however, fixed cost, variable cost and sales price are assumed to be constant, when projections are prepared and submitted to bankers. What is required to

introduce reality in the projections is a possible variation in fixed cost, variable cost and sales price. Hence, incorporating these aspects, the case is developed.

Discussion of Case - 7 :

The case reveals that in the first situation the fixed cost is assumed to increase by 10%, for both the proposed borrowers, here the percentage of increase are same but the volume of increase in fixed cost is different. Here the original (i.e. prior to increase in fixed cost) break even point is same and after increase in fixed cost also break-even point goes to a later stage, by equal extent. Hence, on the strength of other factors only the selection of the borrower A, because the borrower A has higher contribution. Hence, the correct reply for situation 1 is borrower A.

In the case of situation 2 the variable cost is assumed to increase by 10%, now when variable cost is assumed to increase by 10% the break even point is achieved at a later stage. The original break even point is assumed to be same for both the proposed borrowers; however, when the variable cost increases by 10% break even point is not postponed by 10% (alike the previous situation), but for the proposed borrower A the break even point is postponed by 11.11%, whereas for the proposed borrower B, break even point is postponed by 12%. The new break even point for the borrower 'A' is 11,111 units, and 12000 units for borrower B. Hence, obviously the borrower A should be preferred under these

circumstances. Therefore, the true reply will be sanctioning the advance to the borrower 'A'.

In the situation 3 the sales price is assumed to increase, by 10% for both the proposed borrowers. The original break even point before these increase is assumed to be same and with increase in sales price, the break even point of the proposed borrower A becomes 8333 units and that of the proposed borrowerB becomes 7895 units. Obviously, the unit with the lower break even point should be preferred, all other things being constant. Also, the difference observed in the break even point is not marginal but quite high. Hence, the correct answer for situation 3 is sanctioning advance to borrower B.

The responses are analysed on the following lines :

Situation1: So far as the percentage of non-response is concerned it is found to be very high. Out of total responding sample 58.10% have not replied to this question. Out of the respondents 59.09% stated that advance should be given to the proposed borrower A. This is the true answer as discussed in the previous para; i.e. majority of the respondents gave correct answer. The balance 40.91% of the respondents stated that the advance should be sanctioned to the proposed borrower B.

Situation 2 : About situation 2 the study reveals that about 54.29% of the sample have not responded to this particular situation and out of those who have replied 77.08% have stated that the advance should be sanctioned to the proposed borrower A and 22.92%

of the respondents stated that the advance should be sanctioned to borrower 'B'. This indicates that eventhough the percentage of non-response is very high, out of those who have responded the majority have given the correct reply.

Situation 3 : The study of situation 3 reveals that 56.19% have not responded to this situation. Out of those who have responded 58.70% of the respondents stated that the advances should be sanctioned to the proposed borrower B. This indicates that the correct answer is given by the majority of the respondents. 41.30% of the respondents stated that the advance should be sanctioned to the proposed borrower A. This is an incorrect reply.

The response of appraising officers of the large public sector banks is as follows :

For situation 1 where the break even point after increase in the fixed cost is also same, he prefers borrower B, on the ground of the lower fixed cost. In situation 2 where the new break even point is lower for the borrower A as compared to the borrower B, the borrower A is preferred and under situation 3 where the new Break even point is lower for the borrower B as compared to the borrower A, the borrower B is preferred.

In addition to finding out the percentage of the true answer to each situation for case 7, an attempt is also made to examine the relationship between 'yes' to Q.7B(ix) and the correct answer to situation 1, 2 and 3 of case 7 taken individually.

The study reveals that when the relationship is estimated between the answer 'y' and 'N' to Q.7B(ix) and correct or

incorrect answer to situation 1 of case 7, the value of phi-coefficient is found to be 0.1974661. When tested for significance, this indicates the estimated value of χ^2 to be 1.4817264. When compared with the table - value at 5% level of significance it is found to be lower than the table value. This indicates that the answer to Q.7B(ix) and decision to situation 1 to case 7 are independent of each other. i.e. there does not exist relationship between the answer to main Q.7B(ix) and the reply to the case.

When the relationship is estimated between answer to Q.7B(ix) and answer to situation 2 of case 7 it is observed that the phi-coefficient is found to be negative. This is -0.020175. This indicates the existence of negative relationship. This implies that when the respondent states that sensitivity analysis is used, the answer to situation 2 is incorrect in some of the cases. However, when the test of significance is applied it is found that the relationship is insignificant, i.e. eventhough there exists negative relationship it is insignificant, this conveys that answers to the main Q.7B(ix) and situation 2 of case 7 are independent.

When the relationship is estimated between the answer to Q.7B(ix) and the answer to situation 3 it is observed that the phi-coefficient is found to be negative. The value of phi-coefficient comes to -0.116335. When tested for significance, it is observed that the value of χ^2 is 0.546352. Compared with the table value, this estimated value of χ^2 is found to be lower than the table value. This indicates that the

relationship between the answer to Q.7B(ix) and the answer to situation 3 of case 7 are not significantly related, i.e. the decisions to both are independent of each other.

V. Application of break even analysis to multi-product firm :

The application of break-even-analysis to multi-product firm is examined by Q.7B(x). Here, it was intended to find out, whether the break-even point is found out for the unit as a whole or for the each product separately in the case of multi-product firm. When the productiwise break-even point is found out, the allocation of fixed cost is very important. Hence, how this costs are being allocated was also inquired into with the respondents.

Analysis of the Responses :

1. About 24.76% of the total sample has not responded. This may be on account of non-experience for such large advances. Out of the respondents it is observed that 48.10% stated that the allocation of fixed cost be made based on production or use of material or labour hours, however 51.90% of the respondents stated like following :

a. "Detailed product/wise allocation is not made if loan is requested for the unit."

b. "There is no need to look such things in great detail excepting very large proposals which will be sent to technical divisions."

c. "Only composite break even point is found i.e. productwise break even point is not found."

This indicates that more than 50% of the respondents stated about non-use of productwise break even point.

The respondents from regional offices of the large public sector banks stated that the fixed cost is not distributed equally while taking lending decision for multi-product firm. However, the basis on which same will be distributed was not indicated.

vi. Application of break even analysis to banking :

The application of break even analysis to the lending portfolio, not from the point of view of borrowers but from the point of view of bankers is studied through Q.7B(xi). Here the application of break-even analysis to bank branch is examined by emphasising the change in advance portfolio that can affect to branch's profitability.

On analysis of responses it is observed that the non-response was quite low, viz. 20.95% only. This may be on account of easy understandability of the concept. Out of those who replied, 48.19% of the respondents stated that this technique is being used, and 51.81% of the respondents stated that this analysis is not being used. The response indicates the wide non-application of the aspect.

Amongst those who replied that this analysis is not being used, they were of the belief that any loan decision increases the

profitability of the branch and hence, this aspect need not be considered by the banker.

The respondents argued that any loan decision will increase the profitability because the rate of interest charged by the headoffice is lower than the rate charged to the customer. However, the aim of the bankers should be to increase profitability safely and in the longrun.

The appraising officers at region office of large public sector banks indicated that the break even analysis is being applied at the branch level also to consider the profitability aspect.

The summary of response for break-even-analysis is presented in the following table :

TABLE VI.1

RESPONSES TO QUESTIONS PERTAINING TO BREAK-EVEN-ANALYSIS

Q.	Brief particulars	Percentage of Response	Percentage of correct answer
	Break even analysis for :		
i.	established customer and ongoing organisation	91.43	45.83
ii.	established customer and new organisation	92.38	94.85
iii.	new customer and ongoing organisation	89.52	84.04
iv.	new customer and new organisation	93.33	95.92
v.	Factors : Achieving break-even point at certain percentage of capacity	80.95	91.76

	years to reach break-even level	82.86	91.95
	proportion between fixed cost and variable cost	78.10	91.76
vi.	Utility of margin of safety for sanctioning the advance	66.67	82.86
vii.	Utility of margin of safety for fixation of repayment schedule	88.57	81.72
viii.	Use of statistical test of prabability	80.00	48.81
ix.	Use of sensitivity analysis	71.43	37.33
x.	Application of break-even point to multi-product firm	75.24	48.10
xi.	Use of break even analysis for deciding branch's loan portfolio	79.04	48.19

TABLE VI.2

RESPONSES PERTAINING TO BREAK-EVEN-ANALYSIS : CASES

Case No.	Brief Particulars		Response %	True Response %
1.	To examine the use of factor "Proportion of fixed cost and variable cost"		85.71	58.89
2.	To examine the implication of earlier achievment to break-even point with lower margin	- Norms	80.95	48.24
		- Subjective	78.10	57.32
3.	To examine application of factor "Break even point at certain percentage of installed capacity"	Situation 1	80.95	85.88
		2	74.29	79.49
		3.	73.33	81.82
		4	74.29	82.05

4.	To examine the implications of margin of safety		85.71	67.78
5.	To examine the introduction of probability aspect		31.43	78.79
6.	To examine the introduction of probability aspect		26.67	50.00
7.	To examine break even analysis of deciding breah's loan portfolio			
	Situation	1	41.90	59.09
		2	45.71	77.08
		3	43.81	58.70

From the above tables it follows that the maximum non-response was to the Q.7B(vi) amongst the sub questions and for case 6 amongst the cases. Maximum response was for Q.7B(iv) amongst questions and for cases 1 and 4 among the cases.

Out of the respondents the maximum percentage of true answer are for Q.7B(iv) and minimum percentage of correct answers are for Q.7B(ix). Among the cases the maximum true answers are for situation 1 of case 3(85.88%) and minimum true answers are for case 2 (norms) (48.24%). However, so far as case 2 norms are concerned as there are no strict norms compulsorily to be followed, and as the position of the borrower A is better than the borrower B, who is achieving the break even point only marginally earlier, this need not be viewed harshly, but so far as case 6 is concerned, the non-response is the highest and even the percentage of correct answer is very low.

It, thus, shows, unawareness regarding applicability of the statistical test of probability on the part of the lending officers in majority of the cases.

C. METHOD OF COSTING :

The utility of this technique has already been discussed in Chapter III, hence, it is not repeated here. The only question put so far as this technique is concerned is - whether the costing technique followed or to be followed by the proposed borrower is taken into consideration ?

While analysing the response to this, it is observed that 22.86% of the respondending sample have not replied to the main question. Out of the balance, 67.90% of the respondents stated that the method of costing is to be inquired and used for the lending decision, whereas 32.10% of the respondents stated that this technique need not be inquired into or used for lending decision.

Here the appraising officers at regional offices of large public sector banks stated that they use costing techniques.

To study the extent to which the branch managers are responding correctly to the cases, three cases are developed - case 8, 9 and case 10.

Discussion of Case - 8 :

The method of costing the issues (for consumption) of stock is FIFO for the borrower A, and LIFO for the Borrower B. The inventory value as reflected in the balancesheet is greater for

the borrower A as compared to the borrower B. Current ratio for the borrower A is greater than the current ratio for the borrower B.

Looking to this, to have a decision about the sanctioning of the loan, eventhough the current ratio of the borrower B is marginally lower, the borrower B should be sanctioned the advance, because it values its inventory on LIFO bases and hence the profitability will be lower, cash outflow on account of tax-liability will be lower and hence loan requirement will be lower, this will reduce the interest burden, and this will again improve the liquidity of the organisation.

Thus, eventhough there does not exist hard and fast norms, sanctioning advance to the borrower 'B', has been considered to be correct reply and on the basis of this the further analysis is carried out.

Discussion of Case - 9 :

In connection with case 9, no fresh or separate data are given. However, the data for the borrower A in case 8 are considered for both the borrowers, the only difference being in the method of valuation of stock. The borrower A follows the FIFO method and the borrower B follows LIFO and still the value of inventory shown in the balancesheet is same. This necessarily implies that the stock in quantity terms is higher for the borrower B as compared to the borrower A, i.e. the strength of the borrower B is more than that of the borrower A.

Hence here, considering the above logic, the correct answer is considered to be "sanctioning advance to the borrower B."

Discussion of Case - 10 :

The way in which the different systems of costing can affect the stock valuation is articulated here. The complete details about the purchase, issue and stock are given here. The data about the purchase, issue and stock quantity are the same for both. The difference lies only in valuation. This indicates a considerable difference in stock voluation of two borrowers. This makes a difference in profit figure. This has the effect on net working capital, current ratio and quick ratio.

The profit of the borrower A is higher, as compared to the borrower 'B' is the stock valuation of borrower A is higher as compared to that of the borrower B. The net working capital of the borrower A is higher as compared to that of the borrower B, current ratio of borrower A is higher as compared to that of the borrower B, whereas quick ratio is higher for the borrower 'B' as compared to that of the borrower A. The answer to this case, was required to be given as per norms and as per the subjective decision.

No standard norms exist about analysing the impact of costing technique, with reference to bankers. The profitability aspect is attributed to be the factor of highest importance. Also, the current ratio has proved to be the ratio of highest importance as compared to quick ratio, as the following analysis shows.

considering this for norms decision, loan decision in favour of borrower A is considered to be the correct decision. However, so far as the subjective decision is concerned, it is clear from the case that the strength of the borrower B is more than that of the borrower A. This is reflected in higher debtors and cash for the borrower B as compared to the borrower A. Even-though the borrower has less stock in comparision with that of the borrower A. the stock in terms of quantity is the same for both the borrowers.

Analysis of Responses to Cases 8, 9 and 10 :

The analysis of responses to Case 8, 9 and 10 indicates the following :

i. So far as all these three cases are concerned the percentage of non-response (from the responding sample) is considerably high. For case 8 the percentage of non-response is 55.24 , for case 9 the percentage of non-response is 60 for case 10 (norms decision) the percentage of non-response is 61.90 and for case 10 (subjective decision), the percentage of non-response is 62.86%.

ii. From the reply of respondents, it is observed that the correct response is only for 27.66% for case 8, 42.86% for case 9, 57.5% for case 10 (norms) and 46.15% for case 10 (subjective). This indicates that the percentage of correct answer is very less . This necessarily implies that the method of costing is not being widely used in the banking world.

An attempt is also made to examine the situation when the response is 'yes' to the main question and when response is 'No' to the main question, i.e. if it is stated that method of costing are being looked into what is percentage of respondents stating correct answer to all ? (i.e.case 8, case 9, case 10 (norms) and case 10 (subjective). What is the percentage of respondents stating correct answer to any three ? What is the percentage of respondents stating correct answer to any two ? What is the percentage of respondents stating correct answer to any one ? What is the percentage of respondents stating correct answer to no case ?

Similarly when it is stated by the respondent that method of costing is not being looked into while taking the lending decision what are the percentage of respondents giving true reply to all four situations, percentage of respondents giving true reply to three case or situations, percentage of respondents giving true reply to two cases, percentage of respondents giving correct reply to one case and percentage of respondents giving correct reply to no case.

For the purpose of analysis, one can take only those respondents, who have replied either yes or no to the main question and atleast one case (either true or untrue reply). The percentage of such situation was very low as compared to the total responding sample, which came to be 45.71% of the responding sample. Out of the responding sample 83.33% stated that they use method of costing for lending decision. The analysis of response to the cases is briefly summarised in the following table.

TABLE VI.3

PERCENTAGE OF CORRECT ANSWER TO THE CASE WITH REFERENCE TO TECHNIQUE : METHOD OF COSTING

	Method of Costing used for lending decision	Method of costing not being used for lending decision
Correct answer to		
i. All four situations	-	12.5 %
ii. Three situations	20.0 %	-
iii. Two situations	17.5 %	37.5 %
iv. One situation	50.0 %	37.5 %
v. No situation	12.5 %	12.5 %
	100 %	100 %

The table indicates that there were no respondents stating true answer to all four situations even when it was stated by them that they consider the method of costing for taking the lending decision 20% of the respondents stating that they consider method of costing while taking lending decision gave correct answers to three situations. 17.5% stated the true answer to two cases. As many as 50% of the respondents gave true reply to only one situation and 12.5% have no true answer.

Out of those who have stated that method of costing is not being used 12.5% of the respondents stated true answer to all four situations, 37.5% of the respondents gave true answer to two situations, 37.5% of the respondents gave true answer to one

situation and 12.5% of the respondents did not give true answer to any case.

Relationship between response to main question and cases :

Over and above the percentage analysis an attempt is also made to estimate the relationship between main question and cases or situations and between the cases or situation.

The following table represents this relationship.

TABLE VI.4

RELATIONSHIP BETWEEN QUESTION AND CASES AND BETWEEN CASES : METHOD OF COSTING

	Main Question	Case : 8	Case : 9	Case : 10 Norms	Case : 10 Subjective
Main Question	1				
Case : 8	0.0269 (0.0341)	1			
Case : 9	0.0786 (0.2593)	0.6077* (15.1433)	1		
Case : 10 (Norms)	-0.1417 (0.7826)	-0.3776* (5.5615)	-0.1224 (0.5543)	1	
Case : 10 (Subjective)	-0.0930 (0.3288)	0.0913 (0.3171)	0.1690 (1.0285)	-0.3652* (5.0678)	1

(Figures in brackets indicate the value of χ^2
'*' indicates the significant relationship)

From the above given table, it is clear that the relationship is significant and positive only for case 8 and case 9. The relationship is found significant and negative between case 8 and case

10 (Norms) and case 10 (Norms) and case 10 (Subjective). Remaining estimated phi-coefficients are insignificant. Hence it may be said that for majority of the cases, the response to different cases are independent from each other.

As there do not exist standard norms so far as method of costing is concerned, this negative co-efficient (between case 10 (Norms) and case 10 (Subjective)) need not be viewed harshly. However, this conveys that the decision will be taken in favour of the same borrower, under both the circumstances.

The response of the appraising officers at regional office of the large public sector banks have given response as follows :

Fore case 8, advances will be sanctioned to proposed borrower A, for case 9 it will be sanctioned to proposed borrower B, for case 10 (Norms) decision will be in favour of the proposed borrower A and for case 10 (Subjective) the lending decision will be in favour of the proposed borrower B.

The answer to case 10 as per norms and as per subjective approach is different. This indicates that, as there do not exist any standard norms for impact of costing technique to be considered, the general norms and tradition about higher profit and higher current ratio play the role, whereas heart in heart bankers also understand the strength of the organisation.

D. FUNDS FLOW STATEMENT :

The importance of this technique is already explained in Chapter III hence here the analysis is presented directly. During the course of discussion with various branch managers it was felt that they were well conversent with this tool and hence there was no need to put different methods of preparation of funds flow and put a case for the same. However, only four questions were put to examine the extent to which this technique is used.

i. Period for which funds flow information is required :

This information is inquired into by Q. 7(D)(i). The options given here are

funds flow demanded for the period of 1 year, 2 years and more than 2 years.

On analysis of the response it is found that 8.57% of the responding sample has not replied to this question. Out of the responding sample 20.83% stated that funds flow are being sought for a period of one year, 19.79% of the respondents stated that the funds flow statements are sought for a period of 2 years, 17.71% stated that the same are being demanded for 3 years and 20.83% stated that it is being demanded for a period of more than 2 years. Only 4.17% of the respondents stated that it was sought for 5 years, whereas 11.46% stated that they believed, in taking funds flow details for the period of repayment in case of term loan, whereas exceptionally 4.17% stated that it is not required at all, and 1.04% stated that the funds flow were sought for 1½ years.

Eventhough in the question no separate column was kept regarding 3 years, 5 years, 1½ years or not required the respondents were given freedom to put the things separately, if their choice do not fall within the options given and hence the information received is presented above.

The response of appraising officers at regional offices of the large public sector bank is towards requesting funds flow for more than 2 years.

ii. Use of funds flow as a monitoring tool and experience about the correctness :

Variance analysis is a very good tool for better monitoring and controlling. Considering this aspect the second question is put regarding the comparision of actual figures with projections.

In the analysis, it is observed that 7.62% of the responding sample has not responded to this question. Out of those who have responded it is observed that about 82.47% stated that actual figures and projections are compared, whereas 17.53% stated that actual figures and projections are not compared. This indicates that majority of the respondents are comparing actual figures with the projections.

As the appraising officers at regional offices are dealing with big loan proposals naturally the response was positive that the actual positions are compared with the projections.

Q. 7D(iii) is regarding extent to which the projections and actual figures are found to be in line with each other. The response was requested to be replied in 3 groups viz. projections found correct for less than 50% of the cases, projections found correct for about 50% of the cases and pojections found correct for more than 50% of cases. Many respondents were hesitant to give response to this question. It is observed that 21.90% of the responding samples has not responded to this question. Out of those who have responded, 50% of the respondents stated that, according to their experience projections were found to be correct for less than 50% of the cases of their loan portfolio. About 30.49% of the respondents stated that according to their experience, the projections when compared with actuals were found to be correct for about 50% of the cases of their loan portfolio and about 19.5% of the respondents stated that when projected funds flow was compared with actual funds flow, projected funds flow is found to be correct for about more than 50% of the cases of their loan portfolio.

This indicates that 50% of the respondents belongs to one group only viz. the projections found correct for less than 50% of the loan portfolio.

The experience of the appraising officers at regional offices of large public sector banks indicates that the projections are found to be correct in less than 50% of the cases.

iii. Utility of funds flow to decide repayment schedule :

Q.7D(iv) is regarding the usefulness of funds flow to decide repayment schedule, i.e. here the respondents were required to state whether the funds flow statement is useful or not to decide the repayment schedule. On analysis of response it is found that 9.52% of the responding sample has not given response to the question. Out of those responding 85.26% stated that it was useful to decide the repayment schedule and 14.74% stated that funds flow statement was not useful to decide repayment schedule.

Appraising officers at regional office of the large public sector banks have stated that the funds flow statements are useful in deciding repayment schedule.

E. CASH FLOW STATEMENT :

"Cash flow management involves understanding the sources and timing of cash flows as well as the various needs within the business competing for the cash flow generated."[2]

Utility of cashflow statements is discussed in greater detail in Chapter III and hence in this chapter the analysis of response is discussed directly.

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2. Sliwoski Leonard J., Using the statement of cashflow to understand a closely held business, Journal of Commercial Bank leading, May, 1991, p. 53.

i. Period for which cashflow statement requested :

This aspect is inquired into by Q.7E(i). The options given were monthly budget, quarterly budget, six monthly budget and yearly budget.

In response it is observed that about 12.38% of the responding sample have not responded to this question. Out of those responding it is observed that 6.52% of the respondents stated that cashflow is sought on monthly basis, 22.83%stated that the same is demanded on quarterly basis, 6.52% stated that it is demanded on six monthly basis, whereas 36.96% stated that the the same is demanded on yearly basis. Like fundsflow statement here also separate specifications are made by some respondents. Accordingly 1.09% stated that cashflow statement is requested for two years, 6.52% stated that the same is sought for three years, 3.27% stated that cashflow statement is demanded for a period of five years, 5.43% of the respondents stated that the cashflow statement is demand for a period of five years, 5.43% of the respondents stated that the cashflow statements are to be demanded for three years in case of cash credit and for five year in case of term loan. 5.43% stated that cashflow are to be sought for only in case of sick companies and there is no need to collect cash projections for sound companies 1.09% stated that for sanctioning the advance for amount less than 50 lakhs, there is no need to collect the cash projections. 2.17% stated that cash projections are to be collected for 10 years, whereas 2.17%

responded that cash projections are not required at all.

From the above going responses it can be said that there does not exist any thumb rule regarding the period for which cash budgets should be sought for. The only highest percentage were 36.96% stating that cash flow statements should be sought for one year.

The cash flow statement as indicated in Chapter III is an important indicator about the viabiling of the organisation. It indicates that when funds will be required, how much it will be required and why it will be necessary. Hence it is suggested that irrespective of the financial status of the borrower (i.e. sick/sound), the amount for which loan is requested, the period for which it is requested and the legal status of the borrower, some guidelines are required to be framed and training to the lending officers be given regarding how the information in cash budget can furnish him with important clues about the strength of the organisation.

The appraising officers dealing with big loan proposals at regional offices of the large public sector banks stated that cash budgets are demanded on quarterly basis.

ii. Relevance of point of time and cash budget :

Q.7E(ii) is regarding the point of time at which these cash budgets are demanded for. While analysing this question, it is observed that 9.52% of the respondents have not responded to

this question. Out of those who responded, 80% of the respondents stated that cashflow statements are demanded at the time of sanctioning the advance, whereas 20% of the respondents stated that cashflow statements are not demanded at the time of sanctioning the advance. About requirement of cash budget at the time of sanctioning the advance, the appraising officers at regional offices of the large public sector banks stated that it is not required.

iii. Utility of cashflow statement in deciding repayment schedule :

Q.7E(iii) is about the use of cashflow statement in deciding repayment schedule. Here also it is observed that 9.52% of the respondents have not responded to this question. Out of those who have responded, it is observed that 84.21% stated that cashflow statements are useful to decide the repayment schedule.

About the use of cash budget to decide repayment schedule, the appraising officers have stated that it is not used to decide repayment schedule.

iv. Comparing projected cashflow V/s actual cashflow :

Q.7E(iv) is regarding comparision of actual position with the budget submitted by the borrower. On analysing the response, it is found that 9.52% have not responded to this question. Out of the respondents, it is observed that 68.42% of the respondents stated that these comparisions are made, i.e. projected cashflow statement is compared with the actuals whereas 31.58% stated

that no such comparision is made.

About the comparision of cash budget with actual cash position, appraising officers at regional offices of the large public sector banks stated that such comparisions are being made for monitoring purpose.

F. RATIO ANALYSIS :

Q.7F relates to the use of important management accounting technique viz. ratio analysis. The utility and analysis of this technique is already discussed in Chapter III and hence the same is not repeated here.

In this question over and above the basic questions regarding the use of technique with reference to the point of time and borrower, the information is also collected regarding the use of the same with reference to the amount. Here against cash ratio, four columns were provided with reference to amount. This aspect of amount was introduced particularly with consideration that with increase in amount of loan the depth of scrutiny increases.

This technique is analysed from following angles :

i. For basic general question percentage analysis is carried out.

ii. For each ratio depending on amount the percentage analysis is carried out.

iii. Based on percentage of respondents stating the affirmative reply regarding the use of the technique ranking of ratios was

made for each loan group. This will give the relative importance assigned to ratio, with reference to other ratios and thereafter RCCs are found out to examine the relationship between each loan group. This is because it is not proper to compare percentage directly for each ratio; between the loan group because more the amount of loan wider the use of ratios is made.

iv. Over and above this an attempt is also made to estimate the relationship between the ratios, within a loan group with a view to examine the simulteneous application of two ratios. This is carried out with the use of phi-coefficient. This is restricted to only two loan groups, viz. loan amount exceeding Rs.2 lakhs. This was with a consideration that, it is only above Rs.2 lakhs that wider use of ratios is to be made.

v. With the use of stage (iv) it is also attempted to find out the ratios which form a group, i.e. while taking the loan decision whether all the ratios form one group or not. If not, which ratios go together. This is examined with the use of LINKAGE ANALYSIS.

i. Regarding the general question the respondents data are as follows :

a. 98.95% of the respondents stated affirmation regarding the use of ratio analysis while sanctioning the loan. Out of total respondinggsample 9.52% has not replied this question.

b. Regarding the question whether ratio analysis is being carried out periodically until the loan is repaid, 52% of the

respondents stateed that it is being carried out. The percentage of non-response here is 28.57% of the responding sample.

c. So far as advances in the nature of cash credit are concerned, larger application of this technique is found as compared to term loan. This is clear from the fact that 86.31% of the respondents stated that this is used continuously when there is an account of cash credit. Also the percentage of non-response was lower as compared to term loan, which is found to be only 13.33% .

d. About selection with reference to borrowers the question put is whether information about various ratios is demanded or not from all the borrowers. Here 74.42% have stated that the information need not be for all the borrowers. However, it has to be only for a selected borrower. This is reflected in the next question.

Here, 90.54% of the respondents stated that it is applied only for the selected borrowers. Here the percentage of non-response was 29.52%.

According to the appraising officers at regional offices of the large public sector banks, the tool of ratio analysis is being used while sanctioning the loan, also the information is demanded until the loan is repaid in case of term loan, and continuously on yearly basis when there is an account of cash credit.

About the question whether information is being demanded/ worked out or not from/for all the borrowers or selected borrowers, it is stated that the information is worked out only for selected borrowers i.e. for loan amount in excess of Rs.2 lakhs.

ii. Percentage analysis according to loan amount group :

Here, the respondents were requested to reply separately for loan amount less than Rs.25000, for loan amount greater than Rs.25000/- and less than Rs.2 lakhs, loan amount greater than Rs.2 lakhs but less than Rs.10 lakhs and loan amount greater than Rs.10 lakhs.

Table VI.5 gives the information regarding the percentage of respondents for affirmation to the use of technique and non-response to that particular ratio for that loan group.

TABLE VI.5

RESPONSE IN TERMS OF PERCENTAGE FOR EACH RATIO FOR EACH LOAN AMOUNT GROUP

RATIO	LOAN AMOUNT							
	Less than Rs.25000		Greater than Rs.25000 but less than Rs.2 lakhs		Greater than Rs.2 lkhs but less than Rs.10 lakhs		Greater than Rs.10 lakhs	
	Y* %	N.R.* %	Y %	N.R. %	Y %	N.R. %	Y %	N.R. %
1. Current Ratio	25.00	12.38	81.52	12.38	97.80	13.33	100.00	12.38
2. Acid test ratio	3.37	15.24	32.58	15.24	67.05	16.19	83.15	15.24
3. Absolute liquidity ratio	0	17.14	26.44	17.14	47.67	18.10	65.52	17.14
4. Inventory to working capital	12.64	17.14	39.08	17.14	70.11	17.14	85.23	16.19
5. Current liabilities to net worth	12.64	17.14	54.02	17.14	77.01	17.14	80.68	16.19
6. Debt equity	18.18	16.19	71.11	14.29	91.11	14.29	97.80	13.33
7. Fixed Assets to Tangible net worth	4.60	17.14	48.28	17.14	72.22	14.29	86.81	13.33
8. Net worth long lerm liabilities to net block	6.74	15.24	37.08	15.24	67.42	15.24	82.22	14.29
9. Gross profit ratio	29.35	12.38	72.83	12.38	91.21	12.38	95.65	12.38
10. Net profit ratio	31.52	12.38	72.83	12.38	92.31	13.33	96.74	12.38
11. Return on Investment	10.11	15.24	34.83	15.24	60.23	16.19	69.66	15.24

12.	Return on common quity	6.90	17.14	22.99	17.14	43.02	18.10	61.36	16.79
13.	Return on total assets	6.74	15.24	19.10	15.24	47.73	16.19	66.29	15.24
14.	Inventory Turn over	13.48	15.24	51.69	15.24	78.65	15.24	94.44	14.29
15.	Receivable Turn over	11.49	17.14	56.32	17.14	83.72	18.10	95.40	17.14
16.	Average collection period	8.14	18.10	58.14	18.10	75.58	18.10	86.21	17.14
17.	Asset turnover ratio	8.05	17.14	33.33	17.14	58.14	18.10	77.01	17.14
18.	Times interest earned	3.45	17.14	22.99	17.14	43.02	18.10	55.17	17.14
19.	Fixed coverage	3.41	16.19	26.14	16.19	49.43	17.14	59.09	16.19

'*'Y - indicate affirmation for application of ratio

N.R. indicates no response

The table indicates that so far as loan group of amount less than Rs.25000 is concerned, the percentage of affirmation to the use of various techniques is very low, as compared to the percentage of affirmation for application of technique for other groups.

Here the highest percentage is found for the net profit ratio which is 31.52% only and so far as the absolute liquidity ratio is concerned, none of the respondent has stated that the ratio is being used.

For all remaining three groups the highest percentage of affirmation is observed for the current ratio, which is 81.52%, 97.80% and 100% respectively for loan amount less than Rs. 2lakhs, loan amount less than Rs.10 lakhs and loan amount greater than Rs.10 lakhs.

For loan amount more than Rs.25000 but less than Rs. 2lakhs, over and above current ratio nly for six ratios more than 50% of the respondents stated that the use of those ratios is being made. These are, current liability to net worth (54.02%), debt equity (71.11%), gross-profit ratio (72.83%), net profit ratio (72.83%), inventory turnover ratio (51.69%), receivable turnover ratio (56.32%), and average collection period (58.14%).

For loan amount greater than Rs.2 lakhs but less than Rs.10 lakhs, only for 5 ratios it is observed that less than 50% of respondents stated the use of ratio. For remaining 14 ratios more than 50% of the respondents stated the use of ratios. For four ratios the affirmation was even more than 90% viz. current ratio (97.80%), debt-equity ratio (91.11%), gross-profit ratio (91.21%) and net-profit ratio (92.31%).

For loan amount greater than Rs.10 lakhs, for all the ratios respondents stating that the use of ratio is made while taking

lending decision were above 50%. Out of 19 ratios under study for 6 ratios the percentage of affirmation was above 90%. They are : current ratio (100%), debt-equity (97.80%), gross profit ratio (95.65%), net profit ratio (96.71%), inventory turnover (94.44%) and receivable turnover (95.40%).

The percentage of non-response for all the ratios and for all loan group lies between 10% and 20%.

Regarding the use of various ratios the appraising officers at regional office of the large public sector banks have stated that :

a. For loan amount less than Rs.25000, only three ratios are looked into viz. current ratio, debt-equity and net-profit ratio.

b. For loan amount more than Rs.25000 but less than Rs. 2 lakhs, the ratios in use are current liabilities to net worth, fixed asset to tangible net worth, receivable turnover and average collection period, over and above the ratios stated in (a).

c. For loan amount more than Rs.2 lakhs, fifteen ratios out of ninteen ratios (which are included in the questionnaire) are being used. These four ratios not in use are : gross profit ratio, return on common equity, return on total asset and times interest earned.

d. For loan amount more than Rs.10 lakhs it is replied that all 19 ratios are in use.

iii. Rank Correlation between Loan Groups :

The percentage of respondents stating that this ratio should be looked into differs to a considerable extent between each loan group; however, the relevant importance given to that ratio within loan group is an important point.

Here an attempt is made to establish the rank correlation between each loan group. For this purpose the ranks have been assigned within each loan group to ratios based on the percentage of respondents stating that the ratio be looked into for taking loan decision, starting from rank 1 to the maximum percentage of respondents.

The results of the RCC are put in the following table.

TABLE VI.6

RANK CORRELATION COEFFICIENTS BETWEEN THE LOAN GROUPS : RATIO ANALYSIS

LOAN GROUP ↓	LOAN AMOUNT: Less than Rs.25000	Greater than Rs.25000 but less than Rs.2 lakhs	Greater than Rs.2 lakhs but less than Rs10lakhs	Greater than Rs. 10 lakhs
Less than Rs.25000	1			
Greater than Rs.25000 but less than Rs. 2 lakhs	0.8241* (5.9986)	1		
Greater than Rs. 2 lakhs, but less than Rs. 10 lakhs	0.8298* (6.1309)	0.9680* (15.9042)	1	
Greater than Rs.10 lakhs	0.7609* (4.8359)	0.9175* (9.5141)	0.9513* (12.7259)	1

(Figures in brackets indicate estimated t-value and * indicate significant relationship).

The table VI.6 makes it clear that the degree of relationship is very high. The estimated RCCs are greater than 0.7 and all the statistically significant. It implies that the application of various ratios to different groups are highly related to each other. In brief, the relative application of various ratios for different groups are highly related.

iv. Relationship between the ratios :

Over and above studying the relative importance of ratios between the groups by estimating rank correlation coefficient, an attempt is also made to estimate the relationship between the ratios within loan group. Here the study is specific to the loan amount above Rs.2 lakhs and below Rs.10 lakhs and loan amount above Rs.10 lakhs.

a. Relationship between ratios for loan amount more than Rs10 lakhs.

To examine the type and degree of relationship between application of various ratios while taking loan decision, the phi-coefficients are estimated. Table VI.7 gives the phi-coefficients between the ratios for loan amount more than Rs.10 lakhs.

It may be noted from Table VI.7 that the relationship of current ratio is not estimated with other ratios. This is on account of the fact that for loan amount more than Rs.10 lakhs all the respondents stated that this ratio is to be applied and hence looking to the formula of phi-coefficient denominator will become zero and hence phi-coefficient will become ∞ (infinite) and hence, it could not be estimated.

Table Table VI.7 indicates that there exists both positive and negative relationship amongst the ratios. The highest positive relationship is observed between return on common equity and Return on total assets, i.e. here the situation was found that when the respondent is of the opinion that Return on common

TABLE VI.7

RELATIONSHIP BETWEEN RATIOS FOR APPLICATION
THEREOF FORLOAN AMOUNT MORE THAN RS. 10 LAKHS

472

	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
2	1.0000																	
3	0.5637*	1.0000																
	(27.3264)																	
4	0.4062*	0.3064*	1.0000															
	(06.5987)	(08.1683)																
5	0.3123*	0.4488*	0.3641*	1.0000														
	(08.4831)	(17.3256)	(11.6671)															
6	0.3368*	0.2108	0.3663*	-0.0746	1.0000													
	(10.0935)	(03.8222)	(11.8068)	(00.4900)														
7	0.4779*	0.3409*	0.6745*	0.3088*	0.1631	1.0000												
	(20.3276)	(10.1149)	(40.0311)	(08.3921)	(02.4208)													
8	0.1963	0.4183*	0.3429*	0.4153*	-0.0701	0.3306*	1.0000											
	(03.3925)	(15.0505)	(10.2294)	(15.0055)	(00.4423)	(09.8350)												
9	0.0472	0.3026*	0.2166*	0.1696	-0.0321	0.2333*	0.4934*	1.0000										
	(00.1983)	(07.9663)	(04.1303)	(02.5309)	(00.0940)	(04.9529)	(19.4737)											
10	0.2485*	0.1279	0.0983	0.0667	-0.0277	0.1099	0.0363	0.2609*	1.0000									
	(05.4973)	(01.4246)	(00.8498)	(00.3914)	(00.0697)	(01.0999)	(00.1186)	(06.2649)										
11	0.3603*	0.3821*	0.2661*	0.4154*	0.0649	0.2404*	0.2759*	0.0928	0.2830*	1.0000								
	(11.2917)	(12.4070)	(06.0873)	(14.8364)	(00.3742)	(05.1440)	(06.6995)	(00.7662)	(07.1292)									
12	0.3828*	0.5093*	0.2616*	0.3211*	0.1922	0.1607	0.3668*	0.2641*	0.2368*	0.5159*	1.0000							
	(12.7500)	(22.5654)	(06.0219)	(09.0731)	(03.2503)	(02.2737)	(11.7050)	(06.2791)	(04.9329)	(22.8921)								
13	0.2608*	0.4404*	0.3064*	0.4353*	0.0523	0.2057	0.4375*	0.3042*	0.1302	0.6015*	0.7075*	1.0000						
	(05.9863)	(16.8701)	(08.1683)	(16.4876)	(00.2430)	(03.7641)	(16.8437)	(08.2369)	(01.5092)	(31.4763)	(43.5523)							
14	0.1498	0.4351*	0.0181	0.0736	0.2925*	0.0476	0.0128	-0.0235	0.2252*	0.2714*	0.2141*	0.2457*	1.0000					
	(01.9754)	(16.2812)	(00.0286)	(00.4708)	(07.7005)	(00.2036)	(00.0147)	(00.0499)	(04.5639)	(06.4829)	(04.0340)	(05.3104)						
15	0.0429	-0.0479	0.0609	0.0363	-0.0239	0.0713	0.0522	-0.0482	0.2593*	0.0936	0.0584	-0.0375	0.4174*	1.0000				
	(00.1562)	(00.1948)	(00.3194)	(00.1133)	(00.0493)	(00.4428)	(00.2341)	(00.2021)	(05.8493)	(00.7449)	(00.2938)	(00.1198)	(15.1579)					
16	0.0178	0.0541	-0.0763	-0.0201	-0.0614	-0.0633	0.3147*	-0.0704	0.1071	0.2435*	0.1759	0.1472	0.1876	0.3897*	1.0000			
	(00.0268)	(00.2485)	(00.5000)	(00.0346)	(00.3275)	(00.3489)	(08.5182)	(00.4264)	(00.9977)	(05.0413)	(02.6635)	(01.8407)	(03.0641)	(13.2098)				
17	0.1448	0.1699	0.2598*	0.2661*	0.0985	0.3360*	0.6924*	0.2714*	0.1962	0.2337*	0.3850*	0.2636*	0.2172*	0.2928*	0.2033	1.0000		
	(01.8026)	(02.4274)	(05.7361)	(06.0169)	(00.8436)	(09.8225)	(41.2338)	(06.4007)	(03.3483)	(04.6417)	(12.5977)	(05.9774)	(04.1047)	(7.2849)	(03.5145)			
18	0.1968	0.2190*	0.2203*	0.0949	0.1702	0.1724	0.2967*	0.2435*	0.2097	0.3623*	0.4205*	0.3432*	0.1746	-0.0632	0.2545*	0.3241*	1.0000	
	(03.3316)	(04.0783)	(04.1242)	(00.7658)	(02.5195)	(02.5572)	(07.5681)	(05.1603)	(03.8242)	(11.1563)	(15.0263)	(29.8586)	(02.6535)	(00.3353)	(05.4422)	(08.9302)		
19	0.0599	0.1702	0.0367	0.0523	0.0282	0.1408	0.1551	0.1513	0.0984	0.4165*	0.3983*	0.3509*	0.1951	0.1468	0.4046*	0.2024	0.6974*	1.0000
	(00.3123)	(02.4917)	(00.1160)	(00.2352)	(00.0619)	(01.7451)	(02.0925)	(02.0146)	(00.8524)	(14.9214)	(13.5388)	(10.8354)	(03.3511)	(01.8324)	(13.9172)	(03.5233)	(42.3192)	

THE NUMBERS IN HEADINGS INDICATE:

2.	ACID TEST RATIO
3.	ABSOLUTE LIQUIDITY RATIO
4.	INVENTORY TO WORKING CAPITAL RATIO
5.	CURRENT LIABILITIES TO NET WORTH
6.	DEBT EQUITY RATIO
7.	FIXED ASSET TO TENGIBLE NET WORTH
8.	NET WORTH + LONG TERM LIABILITIES TO NET BLOCK
9.	GROSS PROFIT RATIO
10.	NET PROFIT RATIO
11.	RETURN ON INVESTMENT
12.	RETURN ON COMMEN EQUITY
13.	RETURN ON TOTAL ASSET
14.	INVENTORY TURN OVER RATIO
15.	RECEIVABLE TURNOVER RATIO
16.	AVERAGE COLLECTION PERIOD
17.	ASSET TURN OVER RATIO
18.	TIMES INTEREST EARNED
19.	FIXED COVERAGERATIO

equity be looked into, for majority of the cases he is also of the opinion that Return on total assets be looked into and when the respondent is of the opinion that Return on common equity need not be looked into, for majority of the cases they are of the opinion that Return on total assets also need not he looked into.

Out of 153 phi-coefficients, 77 were found to be significant. All these were the positive relationship. All these significant relationships are marked with '*' in the table. Between certain ratios, these exists negative relationship. Hoever, the tests of significance reveals that all these negative relationships are insignificant.

While examining the relationship between quick ratio and inventory turnover ratio, it is observed that the relationship is insignificant. However, the percentage of respondents falling in the category of (yes, yes), i.e. both the ratios are being applied by the branch manager, comes to 79.55%. The percentage of respondents failing in the category of (NN) was very less which is 2.27%.

Similarly the relationship between quick ratio and Receivable turnover ratio is also found to be insignificant. However, here also, 78.82% of the respondents was falling in the category of (y, y), whereas only 1.17% fell in the category of (N,N), this situation reduces phi-coefficient because about 20% of the respondents fall in the category of either (y,N) or (N,y).

Similarly, the relationship between inventory to working capital and Net profit ratio is found to be insignificant, based on phi-coefficient, however, the percentage of respondents falling in (y,y) category, are 82.95% of the respondents.

The ratio Inventory to working capital and Inventory turnover are insignificantly related as shown by phi-coefficient. However, here also, about 81% of the total respondents fell in the category of (y,y). Similar is the case between Inventory to working capital and Receivable turnover ratio.

The ratio current liabilities to net worth and debt-equity shows the negative relationship. However, it is observed that 78.41% of the respondents fall in the category of (y,y). The relationship has turned out to be negative, because there is no respondent in the category of (N,N) and hence the first part of the numberator becomes 0.

While examining the relationship between current liabilities to net-worth and net profit ratio also the relationship is found to be insignificant. However, here also out of the total respondents 78.41% were falling in the category of (y,y).

So far as the relationship between debt-equity ratio and net worth plus long term liabilities to net block, debt-equity ratio and gross profit ratio, debt-equity ratio and net profit ratio, debt equity ratio and receivable turnover ratio and debt equity ratio and average collection period are concerned the phi-coefficient is found to be negative, however, if we look to

the data 80%, 93%, 94%, and 84% of the respondents fall in the category of (yes, yes), but there was no respondent in the category of (N N) and this converted the relationship into negative relationship.

Similar is the case with the relationship between gross profit and Inventory turnover ratio and gross profit and Receivable turnover ratio, where 90% and 91% respectively are falling in the category of (y, y) however, there is not even a single respondent in the category of (N N) and hence the phi-coefficient becomes negative.

Classification of Various Ratios :

After estimating the phi-coefficient between ratios, an attempt is also made to examine which of the ratios go together, through the tool of linkage analysis. As the method is already discussed in detail in Chapter IV, the same is not repeated here. The results of this linkage analysis are as follows :

The total ratios under study are 19, however, on account of the reasons explained in the beginning of this section, phi-coefficient between current ratio and other ratios could not be estimated. Hence so far as linkage analysis is concerned, remaining 18 will be divided in the group. On application of the linkage analysis, it is observed that these 18 ratios are divided in 5 groups.

Group I contains : net profit ratio, return on investment, return on common equity and return on total assets.

All these are the measures of estimating the relationship with net profit of various factors, where net profit may differ slightly from one to another i.e. for net profit to sales and for return on total assets, net profit is taken directly, whereas for return on common equity and return on investment, earning after tax is taken.

Group II is formed of average collection period, times interest earned and fixed coverage.

Here, average collection period is the measure of time i.e. it indicates the time taken to collect the recoverable from debtors, whereas times interest earned and fixed coverage, both are in the nature of coverage ratio.

Group III is of :

Net worth + long term liabilities to net block; Gross profit ratio and assets turnover ratio.

Here the ratios of different categories are forming one group. The first ratio is the measure of long term solvency, the second one is the measure of profitability and the third one is the measure of turnover.

Group IV consists of :

Inventory to working capital, debt-equity ratio, fixed assets to tangible net-worth.

The first one measures the short-term solvency of the organisation and the next two measure the long-term solvency.

Group V consists of :

Quick ratio, absolute liquidity ratio, current liabilities to net worth, inventory turnover ratio and receivable turnover ratio. The first three ratios measure the short-term solvency of the organisation and the last two measures the turnover of inventory and receivables respectively.

Thus on the whole it can be said that at no point of time the profitability ratios and short-term solvency ratios are going together. Here, if may be mentioned that when the annual financial statements are received by the lending officers alongwith the profitability analysis, equal weightage be given to short term solvency ratios and vice-versa to have more thorough clue about the short-term strength of the organisation.

v. Phi-Coefficients for loan amount more than Rs.2 lakhs but less than Rs.10 lakhs.

Similar to above an attempt is also made to estimate the relationship between ratios for loan amount more than Rs.2 lakhs but less than Rs.10 lakhs.

Table VI.8 gives phi-coefficients between two ratios.

The table indicates that, out of 171 phi-coefficients computed 5 phi-coefficients are found to be negative. On testing for significance, all these five negative phi-coefficients are found to be insignificant i.e. pair of two ratios indicated by these five phi-coefficients were behaving independently to one

RELATIONS
FOR LOAN

	1
1	1.0
2	0.2 (04.1
3	0.1 (01.8
4	0.0 (00.3
5	0.0 (00.8
6	0.4 (20.9
7	0.2 (05.2
8	0.2 (04.2
9	0.21 (04.3
10	0.51 (24.5
11	0.0 (00.0
12	0.13 (01.54
13	-0.00 (00.00
14	-0.07 (00.55
15	0.14 (01.70
16	0.09 (00.72
17	0.18 (02.84
18	-0.02 (00.04
19	-0.00 (00.00

(Figur
`1'-in

another. Out of 171 phi-coefficients, 117 were found to be significant when test of significance is applied to this. The highest phi-coefficient is found between times interest earned and fixed coverage, both of which are the coverage ratio.

The next highest relationship is found between receivable turnover and average collection period, both of which indicate the something in a different manner. The first one receivable turnover ratio indicates for how many times receivables have been rotated, during the year, when we take sales for one year and average collection period is the time measurement i.e. what is the time taken for collection of receivables. The next highest relationship is found between return on investment and return on total assets, where coefficient is found to be 0.6199. The rest of estimated phi-coefficients are below 0.6199.

When linkage analysis is applied to this, the 19 ratios are divided in 5 groups as follows :

Group I comprises of times interest earned and fixed coverage ratio.

Group II comprises of inventory to working capital, inventory turnover ratio, receivable turnoverz ratio, average collection period and asset turnover ratio.

Group III comprises of quick ratio, absolute liquidity ratio, current liability to networth, return on investment, return on common equity and return on total assets.

Group IV consists of fixed assets to tangible net worth, net worth plus long term liabilities to net block, and, Group V consists of current ratio, debt-equity ratio, gross profit ratio and net profit ratio.

Contrary to the group of ratios formed for loan amount greater than Rs.10 lakhs, here it is observed that the ratios indicating short-term viability and ratios of profitability go together, which is indicated by two groups viz. third and the fifth.

SECTION II

MONITORING, FOLLOW-UP AND PROBLEM CREDIT

A. MONITORING AND FOLLOW-UP :

After examining the application of techniques in detail from various angles, the application of techniques to monitoring and follow-up is examined because "the lender's responsibility doesn't end once the loan is made and documented. Because circumstances change both, within the borrower's business and in its external environments, the lender must monitor the fluctuating quality of a given credit as a result of those changes."[3] Also, "bankers have learned through long, hard and often bitter experience that failure to require pay-out can be most embarrassing and often disastrous both to the bank and to the

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3. Bettinger Cass, What it takes to be a professional lender, Journal of Commercial Bank Lending, March, 1988, p. 9.

borrower."[4] This calls for the need for monitoring and follow-up.

Based on the discussion with lending officers in pre-questionnaire session, it was gathered that the cashflow statement fundsflow statements and ratio analysis are to be used for monitoring purpose. Hence, these three techniques were included specifically in the questionnaire and respondents were requested to further specify any other technique if used for the purposeof monitoring and follow-up.

For all the above mentioned three techniques the percentage of non-response was the same viz. 23.81%. The most applied technique based on responses is fundsflow, where 81.25% of the respondents stated that it is being used for monitoring and follow-up. The next one is cash flow where 70% of the respondents stated that it is to be used for monitoring and follow-up and next found is the ratio analysis. Here 68.75% of the respondents stated that ratio analysis is to be used for monitoring and follow-up.

Over and above this, an attempt is made to examine the relationship in application of technique at two stages viz. sanctioning and monitoring. In other words an attempt is made here to examine, when the eashflow is used for sanctioning decision by the lending officer, whether it is being used for monitoring the loan portfolio and soon.

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4. Hensel John G., Lending Developments and Loan Quality, Journal of Commercial Bank Lending, March, 1973, p. 26.

Here, for all these three techniques the relationship between there two stages is found to be insignificant. The relevant phi-coefficient and value of chi-quare are given in the Table VI.9.

TABLE VI.9

RELATIONSHIP REGARDING APPLICATION OF TECHNIQUES BETWEEN TWO STAGES : SANCTIONING AND MONITORING

Technique	Phi-coefficient	Chi-square
Cash-flow	0.1406	1.5214
Funds-flow	-0.0759	0.4490
Ratio Analysis	0.1709	2.2792

However, when the percentage of respondents stating the application of techniques at both the stages is found out, they are found to be 61.04%, 79.48% and 69.23% respectively for cash-flow, funds flow and ratio analysis.

This necessarily indicates that when a technique is applied by the lending officer for sanctioning decision, it is also applied for monitoring purpose in majority of the cases.

In addition to the information regarding the above three techniques, the respondents were also requested to furnish information regarding any other tools being used for the purpose of monitoring and follow-up.

Here, it is observed that in majority of cases stock statement was given as main tool for monitoring. Over and above

monthly stock statement some of the respondents talked about the QIs, information regarding sales, production etc. and balance-sheet analysis at an yearly interval.

B. PROBLEM CREDIT :

As discussed in the chapter on questionnaire, Q.9 is regarding the regularity aspect of loan. This was considering the comment by Bala Shanmugam that, "like death and taxes, problem loans are inevitable but early recognition can avoid the adverse impact of such loans."[5] i.e. Loan officer "is responsible, however, for controlling credit risk to an acceptable level and for protecting the bank against loss when the quality of loan deteriorates."[6]

According to MacDonald "there are four principle reasons credits get into trouble :

1. Lack of overall management balance
2. Lack of secondary repayment sources
3. Faculty documentation
4. Lack of early identification of warning signals"[7]

Robert Benbow states in this connection that "the more you depart from credit guidelines the greater the likelihood of

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5. Shanmugam Bala, Managing Problem Loans - The Banker - December, 1987, p. 25.

6. Pace Edmond E. and Simonson Donald G., Solving problem loans (A trainig feature), Journal of Commercial Bank Lending, July, 1977, p. 24.

7. MacDonald D.J., Problem Loans : Their prevention, handling and cures, Journal of Commercial Bank Lending, December, 1977, p. 55.

trouble and loan losses."[8] Michaeil Violano also mentions the following as signs of a company in trouble. i. Missing or delayed financial reports ii. large variances in forecast versus actual expenses or sales iii. Denial of any (financial, market, customer, staff) problems.[9]

Regarding the indicators of problem credit Flockett and others states the following : i. A deteriorating financial condition from one statement period to the next ii. The late submission by a borrower of this financial statements iii. A deviation from established borrowing patterns and particularly an inability to payout seasonal line of credit is another indicator of financial strain.[10]

B.A. Hedges has pointed out following types of risks with reference to commercial banks. viz. credit risk, interest rate sensitivity, commitment, liquidity and taxable income. Even-though all may not be applicable in Indian Scenario, credit risk has its application which indicates the, "risk of loss of principal or interest causing at some point a negative effect on profits."[11]

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9. Vide, Violano Michael, The loan rangers : System that fight bad risk - Bankers Monthly, January, 1991, p.20.

10. Holman John F., Fifield Ralph B. Jr., and Lockett F. Walker Jr., Problem loans : centralised Vs. Decentralised Approaches, Journal of Commercial Banki Lending, June, 1975, p. 21.

11. Hedges Bob A., Risk Management, Part 2, Identifying loss exposured, Journal of Commercial Bank Lending, November, 1985, p. 20.

8. Benbow Robert F., Preventing Problem Loans Before They Happent 25 Red Flags, Journal of Commercial Bank Lending, April, 1985, p. 18.

Considering all above aspects, an attempt is made to gather the information about the number of cases having regular repayment schedule, and amount thereof. Number of irregular cases and the amount thereof and the number of cases where repayment schedules are not fulfilled and the amount thereof. The difficulties in gathering this data are already pointed out in Chapter III and based on the available data the study is carried out.

The objective here is to examine the relationship between the probability that management accounting technique will be applied and the proportion of total advance that have become a problem-credit. Here, as the precise data about "Irregularity" or "Non-fulfilment" were not available, some respondents provided the data about 'overdue' while some provided the data about "protested bill"and some provided the data about, "advances considered bad and doubtful of recovery plus suitfiled debts including decreed debts (excluding previous category) plus advances recalled - sick and sticky advances (excluding previous two categories)". Some respondents provided the information regarding cases and amount both; whereas some respondents provided the information only regarding amount. The absolute figures of amount of problem credit is not taken here directly for analysis, however, the proportion of problem credit to total credit is used, because it is the relative measure. The branch with a very high loan portfolio may have

large amount of problem credit in absolute terms but its share in total advance may be less than the same for a small branch. To circumvent this possibility, the proportion of problem credit to total advance was taken.

It is generally argued that with the increase in the applicability of management accounting techniques, there is a fall in the problem credit. An attempt is made here to examine the effect of the application of management accounting techniques on the problem credit. In order to examine this, four different regression equations are estimated which are as follows :

i. Proportion of total problem credit to total advance is regressed on average probability of application of management accounting techniques.

ii. Proportion of SSI problem credit to SSI advance is regressed on the probability of application of management accounting techniques in SSI segment.

iii. Proportion of small borrower's problem credit to small borrower's advance is regressed on the probability of application of technique for small borrower's advance.

iv. Proportion of non-priority problem credit to non-priority advance is regressed on the probability of application of management accounting technique to non-priority segment.

i. Regression of proportion of problem credit to total advance on average probability of application of techniques

Here on the one hand the proportion of problem credit to total advance is found out and on the other hand the average of probability of application of techniques for various segments is taken.

On running the regression it is found that the constant value is 0.167027. This indicates the intercept. This implies that in absence of the application of the management accounting techniques the problem credit will be nearly 16.7% of total advances. The value of X-coefficient is found to be -0.13060 and is statistically significant. The negative sign indicates the inverse relationship i.e. as the average Pi (i.e. average application of techniques) increases the proportion of problem credit to total advance decreases. The value of R^2 is found to be 0.077714. This suggests that over and above, the applications of management accounting techniques other factors are important in explaining the variations in the problem credit. So far as the effect of other factors on problem credit are concerned following two comments are worth noting : Bhabatosh Datta states that "then there are political pressures against which the bank management do not stand-up. There are records of large loans granted on verbal instruction from the top."[12]

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12. Datta Bhabatosh, Banks : 18 years after nationalisation : The banker, April, 1988, p. 24.

I. Satya Sundaram also notes that "the government is forcing the banks secretly and unofficially to lend to those priority sector borrowers who do not meet the banking criteria."[13]

ii. Regression of proportion of SSI problem credit to SSI advance on probability of application of management accounting techniques to SSI Segment :

Here an attempt is made to estimate the relationship between the proportion of problem credit pertaining to SSI advance and the probability of application of technique in SSI segment. Considering the proportion of SSI problem credit to SSI advance as a function of probability of application of technique in SSI segment the regression results give intercept to be 0.3146. It shows that in the absence of the application of management accounting techniques 31% of the SSI advances are likely to be turned into a problem credit.

The value of X-coefficient is found to be -024264. This indicates the existence of negative relationship i.e. as the application of management accounting techniques increases, the proportion of SSI problem credit to SSI advance decreases, though it is not statistically significant. This insignificant relationship may be on account of the fact that eventhough the application of management accounting techniques is high to SSI

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13. Satya Sundaram I., Priority sector lending : Problems and Remedies : The Journal of the Indian Institute of Bankers, January - March, 1984, Vol. 55, No. 1, p. 18.

segment (which is reflected in high average composite index for SSI segment) the proportion of SSI problem credit is not controlled; this may be on account of the fact that approximately 7% of SSI units financed have turned out to be sick to which about 15% of total SSI credit is advanced. Out of those which have become sick about 90% is non-viable and the amount advanced to these non-viable units is about 70%.[14]

For problems arising for SSI units B.D. Dikshit states that "the majority of the units fail because of internal problems, which are capable of being sorted out by them. Prevention of sickness could thus be said to be, to a large extent in the hands of the enterpreneur himself."[15]

The value of R^2 is found to be 0.0791. This indicates that about 8% of variations in problem credit are explained by application of management accounting techniques.

iii. Regression of proportion of small borrowers problem credit to small borrower's advances on probability of application of management accounting techniques to small borrowers advances :

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14. Reserve Bank of India, Bulletin 1992, Supplement to Report on Trend and Progress of Banking in India, 1990-91 (July-June); RBI; p. 77.

15. Dikshit B.D., Financing of Small Scale Industries. Some Trust Areas - State Bank of India, Monthly Review, March, 1989, p. 136.

For a very few branches a detailed break-up and details about the problem credit for small borrowers were available. However, on reference to matrix of Q.7 it is clear that we have BMRT, SEPR, TO and EDU which are generally incorporated in the group of small borrowers. Hence the average Pi for above four sub-segments was calculated. The proportion of small borrower's problem credit to small borrower's advances was also found out for those branches and an attempt is made to find out the extent to which average probability of application of techniques affects the proportion of small borrower's problem credit to small borrower's advances.

On running the regression, the value of constant is found to be 0.315419. This indicates that 31% of small borrowers advances will turnout to be small borrowers problem credit in absence of the application of techniques. The value of X-coefficient is found to be -0.23182 which indicates that with the unit change in Pi, proportion of small borrwer's problem credit to small borrower's advances changes by 0.23 units. The negative coefficient indicates the existence of negative relationship, which indicates that as probability of application of techniques increases the proportion of small borrower's problem credit to small borrower's advance reduces.

The value of R^2 is found to be 0.134273. This indicates that 13% of variations in small borrowers problem credit are explained by variations in probability of application of management accounting technique. In this context it is important to

note the comment by Rajagopal that "the priority sector loans normally move to the over dues in short run. The basic factor affecting the repayment of loan is the low rate of productivity of the unit-in-term of monetary value."[16]

iv. Regression of proportion of non-priority problem credit to non-priority advance on probability of application of management accounting techniques to non-priority advances.

While analysing the problems of corporate sector which are the significant portion of non-priority advance, M. Ramaswamy states that "regarding the corporate sector the banker applies all the tools at his disposal like i. funds flow analysis ii. balancesheet analysis and iii. working capital analysis in terms of Tandon Committee recommendations. The chances of advances going sticky in this sector are normally not so frequent as all available precautions are taken by the banker including registration of charges with the Registrar of Companies, Political interference, interference of bank's board of directors and other extraneous considerations may dilute the rigour of the analysis and bring distress to the bank."[17]

The a bove statement necessarily indicates that here the management accounting techniques are being applied to a considerable extent. In continuation to i, ii and iii above, an

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16. Rajagopal, Changing Dimensions of Banking Finance in India, Banking Finance, January, 1988, p. 8.

17. Ramaswamy M., Recovery of Bank Advances, The Journal of Indian Institute of Bankers, Vol. 49, No. 1, January-March, 1978, p. 25.

attempt is also made to examine the effect of probability of application of technique for non-priority segment on the proportion of non-priority problem credit [illegible] to non-priority advance.

On running the regression, the value of constant is found to be 0.425703. This indicates that in the absence of the application of the management accounting techniques, the problem credit as a percentage of non priority advances will be as high as 42%.

The value of X-coefficient is found to be -0.53834 which indicates that with an increase in the probability of application of management accounting techniques by one unit the proportion of non-priority problem credit to non-priority advance reduces by 0.53 units. On the basis of this we may argue that this sector requires the application of management accounting techniques to a greater extent to reduce problem credit.

On applying the text of significance it is observed that the relationship is significant. The value of R^2 is found to be 0.198130 which indicates that about [illegible] of variations in proportion of non-priority problem credit to non-priority advance is explained by change in probability of application of techniques.

The results of these four regression run are summarised in the following table.

TABLE VI.10

REGRESSION RESULTS OF PROPORTION OF PROBLEM CREDIT ON PROBABILITY OF APPLICATION OF TECHNIQUES

		Constant	X-coefficient	R^2
Regression of proportion of				
i.	total problem credit to total advance on average probability of application of technique	0.167027	-0.13060* (-2.09323)	0.077714
ii.	SSI problem credit to SSI advance on probability of application of technique for SSI segment	0.3146	-0.24264 (-1.46548)	0.0791
iii.	Small borrowers problem credit to small borrowers advance on average probability of sub-segment of small-borrowers segment	0.315419	-0.23182* (-2.22782)	0.134273
iv.	Non-priority problem credit to non-priority advance on probability of application of techniques for non-priority segment	0.425703	-0.53834* (-2.27789)	0.198130

(Value in bracket indicates the estimated t-value and * indicates significant relationship)

Cases of problem credit with reference to segment and amount :

Based on the available data about branchwise problem credit of the total only 0.16% of the cases were for Industry (non-priority). 3.55% were for other priority. 6.51% of the case were for SSI. 64.80% of the cases were for small borrowers and 24.98% of the cases were for AGRI. This conveys that so far as the

cases are concerned the highest number of cases among the problem credit were for small borrowers. When looked into the amount, 18.87% of the amount was pertaining to the industry, 4.28% of the amount was pertaining to non-priority others, 57.39% of the amount was pertaining to SSI segment, 17.89% of the amount was pertaining to small borrowers and 1.57% of the amount was pertaining to AGRI. i.e. the highest percentage of the amount of problem credit was for SSI.

The amount wise problem credit is divided by these respondents in three groups. The three groups are : the loan amount outstanding more than Rs.25 lakhs, loan amount outstanding less than Rs.25 lakhs, but more than Rs.5 lakhs and loan amount outstanding less than Rs.5 lakhs.

So far as the cases for amount outstanding more than Rs.25 lakhs are concerned, they constitute only 0.25%, however, amount-wise they constituted 67.09% of the problem credit. So far as the cases for amount outstanding more than Rs.5 lakhs, but less than Rs.25 lakhs are concerned, the cases constitute only 0.27% of the cases of problem credit and amount constitutes 5.32% of the problem credit and so far the amount less than Rs.5 lakhs is concerned the cases constitute 99.48% of the total number of cases having problems and the amount consitutes 27.59% of the total amount of problem credit.

This indicates that, segmentwise it is the small borrower's advance, which generally has higher number of amcounts having

problems and amountwise, loan accounts with facility and amount outstnading less than Rs.5 lakhs, has higher problem accounts.

CONCLUSION :

The present chapter thus examines the depth and extent of various management accounting techniques in lending decision. Relevant hypothetical cases are also developed to examine the views of lending officers and practice of lending in the business world.

On analysis of responses it is observed that the business plan is the most received and widely used technique amongst the lending officers. The application of break even analysis is examined for various types of proposed borrowers. In addition to this, the consideration given to uncertainty in determination of break even analysis and the introduction of sensitivity analysis to break even analysis is also examined. The analysis reveals that these two concepts are still greek and latin to some of the lending officers. In order to economise the space the detailed findings regarding application of method of costing, funds flow, cash flow and ratio analysis are not presented here. However, on the whole it can be said that business plan, fund flow, cash flow and ratio analysis find their application to a greater extent in the lending decision.

On examining the application of various management accounting techniques for the monitoring and follow-up of loan portfolio,

it is found that funds flow, cash flow and ratio analysis is used by very high percentage of the respondents.

The problem credit is a burning problem for bankers and for the authorities, at present in the Indian Scenario. An attempt is also made to estimate the relationship between the application of management accounting techniques and the problem credit. Here the relationship between proportion of problem credit to total credit and average probability of application of management accounting techniques is found significant. Also the effect of application of management accounting techniques for small borrowers on proportion of small borrower's problem credit to total credit is found to be significant. The relationship is found to be negative. This necessarily implies that so far as above two types of problem credit are concerned the PROPORTION OF PROBLEM CREDIT REDUCES AS THE APPLICATION OF MANAGEMENT ACCOUNTING TECHNIQUES INCREASES.