
UNIT 10 APPROACHES TO BUDGETING

Structure

- 10.0 Objectives
- 10.1 Introduction
- 10.2 Fixed Budgeting
- 10.3 Flexible Budgeting
- 10.4 Difference between Fixed and Flexible Budgeting
- 10.5 Appropriation Budgeting
- 10.6 Zero Based Budgeting (ZBB)
- 10.7 Performance Budgeting
- 10.8 Budgetary Control Ratios
- 10.9 Behavioural Consideration
- 10.10 Let Us Sum Up
- 10.11 Key Words
- 10.12 Answers to Check Your Progress
- 10.13 Terminal Questions
- 10.14 Further Readings

10.0 OBJECTIVES

After studying this unit you will be able to know:

- 1 different approaches for the preparation of budgets;
- 1 the process of adjusting the budget to reflect actual conditions; and
- 1 the differences between planned activity and actual activity.

10.1 INTRODUCTION

In the previous Unit you have learnt the preparation and review of various types of budgets. You have also learnt about the development of the master budget for planning and control of costs. In this unit, you will study about different approaches to budgeting and further to examine the use of the budget as a tool for performance evaluation and control. The actual performance is compared with the budgeted programme and the variances are analysed and investigated so that corrective action may be taken well in time to ensure the success of the business.

10.2 FIXED BUDGETING

According to C.I.M.A., London, “a fixed budget is a budget which is designed to remain unchanged irrespective of the level of activity actually attained.” Thus, a budget prepared on the basis of a standard or fixed level of activity is known as a fixed budget. It does not change with the change in the level of activity. Therefore, it

becomes an unrealistic yardstick in case the level of activity actually attained does not confirm to the one assumed for budgeting purposes. The management will not be in a position to assess the performance of different heads on the basis of budgets prepared by them because they can serve as yardsticks only when the actual level of activity corresponds to the budgeted level of activity. Fixed budget is useful when there is no significant variation between the budgeted output and the actual output. It does not consider variances due to changes in the volume. In the industries where the pattern of demand is stable a fixed budget may be adequate, especially where the budget period is comparatively short. In such concerns it is possible to forecast sales with a considerable degree of accuracy.

10.3 FLEXIBLE BUDGETING

Flexible budget, also known as variable or sliding sale budget, is a budget which is designed to furnish budgeted costs for any level of activity actually attained. Flexible budgeting technique may be employed to adjust other budgets according to current conditions arising out of seasonal variations or changes in the length of the working period etc.

According to C.I.M.A., London, “a flexible budget is a budget designed to change in accordance with the level of activity actually attained.” Thus, a budget prepared in a manner so as to give the budgeted cost for any level of activity is known as a flexible budget. Such a budget is prepared after considering the fixed and variable elements of cost and the changes that may be expected for each item at various levels of operations.

Under this method, a series of budgets would be prepared at different levels of activity. Variable items are shown in the budget as per the level of output. Fixed costs are shown at the same amount irrespective of level of output. Sales value is computed and entered into the flexible budget. The position of profit or loss will be revealed at the various levels of activity. Management will take a decision to operate at a particular level of activity where the profit is maximum taking into account all other factors.

A flexible budget is more realistic, useful and practical. The likely changes in the actual circumstances are taken into account while preparing a flexible budget. The technique is highly useful for control purposes. Actual performance of an executive may be compared with what he should have achieved in the actual circumstances and not with what he should have achieved under quite different circumstances.

Illustration 1

A Company producing electronic watches, estimates the following factory overhead costs for producing 5,000 units:

	Rs.
Indirect Materials	16,000
Indirect Labour	30,000
Inspection Costs	16,000
Heat, Light and Power	8,000
Expendable tools	8,000
Supervision costs	8,000
Equipment depreciation	4,000
Factory rent	4,000

**Budgeting and
Budgetary Control**

Indirect labour, indirect material and expendable tools are entirely variable. Heat, light and power and inspection costs are variable to the extent of 50%, 40% respectively. Other costs are fixed costs a month.

Prepare a flexible budget for production of 4,000 and 6,000 units per month. Also find out the average factory overheads per unit for these two production levels.

Solution**Flexible Budget**

for the production of 4,000 and 6,000 units per month

	5000 Units Rs.	4000 Units Rs.	6000 Units Rs.
Overheads:			
Indirect Material	16,000	12,800	19,200
Indirect Labour	30,000	24,000	36,000
Inspection Costs	16,000	14,720	17,280
Heat, Light and Power	8,000	7,200	8,800
Expendable tools	8,000	6,400	9,600
Supervision Costs	8,000	8,000	8,000
Equipment depreciation	4,000	4,000	4,000
Factory rent	4,000	4,000	4,000
	<u>94,000</u>	<u>81,120</u>	<u>1,06,880</u>
Average factory overheads per unit	18.80	20.28	17.81

Illustration 2

A manufacturing company is presently working at 50% capacity and produces 1000 units at a cost of Rs. 360 per unit. The details of cost are given below :

	Rs.
Material	200
Labour	60
Factory Overhead	60 (Rs. 24 fixed)
Administrative overheads	40 (Rs. 20 fixed)
	<u>Rs. 360</u>

The current selling price of the product per unit is Rs. 400. At 60% of its capacity, material cost per unit increases by 2% and selling price per unit falls by 2%.

At 80% of its capacity, material cost per unit increases by 5% and selling price per unit falls by 5%. Estimate profits at 60% and 80% level of output and offer your suggestions.

Flexible Budget

(Showing the forecast of Profit at different levels)

Elements of Cost	Level of Output		
	50% (1000 Units) Rs.	60% (1200 Units) Rs.	80% (1600 Units) Rs.
Material	200	204	210
Labour	60	60	60
Factory Overhead (Variable)	36	36	36
Administrative O.H. (Variable)	20	20	20
Marginal Cost per Unit	<u>316</u>	<u>320</u>	<u>326</u>
Sales Per unit	400	392	380
Contribution per Unit (Sales – Marginal Cost)	84	72	54
Total contribution	84,000	86,400	86,400
Fixed Overhead (Rs. 24 + Rs. 20)	44,000	44,000	44,000
Profit (Contribution – Fixed OH)	<u>40,000</u>	<u>42,400</u>	<u>42,400</u>

Suggestion : It is advisable to operate at 60% level of capacity as the profit at 80% capacity is the same. More risk is involved at 80% capacity as more production, more working capacity, more efforts still profit remains the same.

Illustration 3

The following data belongs to a manufacturing company for the year ending 31st March, 2005. You are required to prepare a flexible budget for the year 31-3-2005 and forecast the profit at 60%, 75%, 90% and 100% of capacity.

Fixed Expenses :	Rs.
	(Lakhs)
Wages and salaries	4.2
Rent, rates and taxes	2.8
Depreciation	3.5
Administrative expenses	4.5
Total	<u>15.0</u>
Semi-Variable expense : @ 50% of capacity	
Maintenance and repairs	1.5
Indirect Labour	4.7
Sundry administrative expenses	2.7
Total	<u>8.9</u>

**Budgeting and
Budgetary Control**

Variable expenses : @ 50% of capacity

Material	12.0
Labour	12.8
Other direct expenses	2.0
	<u>26.8</u>

It is estimated that fixed expenses remain constant for all levels of production; semi-variable expenses remain constant between 45% and 65% of capacity, increasing by 10% between 65% and 80% of capacity and 20% between 80% and 100% of capacity.

Sales at various levels are :

50% capacity Rs. 45 lakh
60% capacity Rs. 50 lakh
75% capacity Rs. 60 lakh
90% capacity Rs. 75 lakh
100% capacity Rs. 85 lakh

Solution

Flexible Budget for the year ended 31st March, 2005

(Rs. in lakh)

Elements of Cost	Level of Output				
	50%	60%	75%	90%	100%
Fixed expenses :					
Wages and salaries	4.2	4.2	4.2	4.2	4.2
Rent, Rates and taxes	2.8	2.8	2.8	2.8	2.8
Depreciation	3.5	3.5	3.5	3.5	3.5
Administrative expense	4.5	4.5	4.5	4.5	4.5
	<u>15.0</u>	<u>15.0</u>	<u>15.0</u>	<u>15.0</u>	<u>15.0</u>
Semi-Variable Expenses :					
Maintenance and repairs	1.5	1.5	1.65	1.80	1.80
Indirect labour	4.7	4.7	5.17	5.64	5.64
Sundry admn. Expenses	2.7	2.7	2.97	3.24	3.24
	<u>8.9</u>	<u>8.9</u>	<u>9.79</u>	<u>10.68</u>	<u>10.68</u>
Variable expenses :					
Material	12.0	14.4	18.0	21.60	24.0
Labour	12.8	15.36	19.2	23.04	25.6
Other direct expenses	2.0	2.40	3.0	3.60	4.0
	<u>26.8</u>	<u>32.16</u>	<u>40.2</u>	<u>48.24</u>	<u>53.6</u>
Total cost of Production	50.7	56.06	64.99	73.92	79.28
Profit/Loss	(-) 5.7	(-) 6.06	(-) 4.99	(+) 1.08	(+) 5.72
Sales	<u>45.00</u>	<u>50.00</u>	<u>60.00</u>	<u>75.00</u>	<u>85.00</u>

10.4 DIFFERENCE BETWEEN FIXED AND FLEXIBLE BUDGETING

The differences can be outlined as follows:

- 1) Fixed budgeting is inflexible and remains the same irrespective of the volume of business activity, whereas flexible budgeting can be suitably recast quickly to suit changed conditions.
- 2) Fixed budgeting assumes that conditions would remain static, whereas, flexible budgeting is designed to change according to a change in the level of activity.
- 3) Under fixed budgeting, costs are not classified according to fixed, variable and semi-variable, while, under flexible budgeting, costs are classified according to nature of their variability.
- 4) Under fixed budgeting, actual and budgeted performances can't be correctly compared if the volume of output differs, while under flexible budgeting, comparisons are realistic since the changed plan figures are placed against actual ones.
- 5) Under fixed budgeting, cost cannot be ascertained if there is a change in the circumstances, while, under flexible budgeting, costs can easily be ascertained at different levels of activity. The task of fixing prices becomes smooth.

10.5 APPROPRIATION BUDGETING

Generally budgets are prepared for the regular business activities and they cover the operational activities of an organisation. However, it is not true that budgets are only useful for operational activities, these may also prepare for any particular purpose, like for constructing any particular building, development activities, where revenue is not concerned, only expenditures are there. When budgets are prepared only for a particular activity/work, that is called Appropriation Budget. These budgets are related to only one activity/work and on completion of that particular activity the purpose of this budget ends. Hence, this type of budget are always relate/cover different activities in an organisation.

10.6 ZERO BASED BUDGETING (ZBB)

The technique of zero based budgeting suggests that an organisation should not only make decisions about the proposed new programmes but it should also, from time to time, review the appropriateness of the existing programmes. Such review should particularly done of such responsibility centres where there is relatively high proportion of discretionary costs.

Zero based budgeting, as the term suggests, examines a programme or function or responsibility from “scratch.” The reviewer proceeds on the assumption that nothing is to be allowed. The manager proposing the activity has, therefore, to prove that the activity is essential and the various amounts asked for are reasonable taking into account the volume of activity. Nothing is allowed simply because it was being done or allowed in the past. Thus, it means writing on a clean slate.

Peter A. Pyhrr defined the zero based budgeting as “an operating planning and budgeting process which requires each manager to justify his entire budget requests in detail from scratch (hence zero basis). Each manager states why he should spend any money at all. This approach requires that all activities be identified as decision packages which would be evaluated by systematic analysis ranked in order of importance.”

Thus, a cost-benefit analysis is done in respect of every function or process. It has to be justified while framing budgets. The assumption underlying zero base budgeting is that the budget for the previous period was zero, therefore whatever costs are likely to be incurred or spending programmes are chalked out, justification or the full amount is to be given. Under conventional system of budgeting, however, the justification is to be submitted by the manager only in respect of the increase in the demand for allotment of funds in excess over the budget for the previous period. Thus, instead of functionally-oriented spending approach, programme-oriented and decision-oriented approach is followed under zero based budgeting.

Advantages of ZBB

- 1) This system is decision oriented.
- 2) The technique is relatively elastic, because budgets are prepared every year as zero base.
- 3) It reduces wastage, eliminates inefficiency and reduces the overall cost of production because every budget proposal is on the basis of cost-benefit ratio after careful evaluation of different alternatives and the one which is 'best' is approved.
- 4) It provides for a greater possibility of goal congruence.
- 5) It takes into consideration inflationary trends, competitor games and consumer behaviour.
- 6) It vastly improves financial planning and management information system in view of its revolutionary approach.

Disadvantages of ZBB

- 1) It is possible to quantify and evaluate budget proposals involving financial matters but computation of cost-benefit analysis is not possible in respect of non-financial matters.
- 2) The cost of administration of zero based budgeting is high.
- 3) It may be difficult to search out various alternatives for the same activity.
- 4) Some decision packages are inter-related which may be difficult to rank.
- 5) Ranking the decision is a scientific technique. Every manager can not be expected to have the necessary technical expertise in this matter.
- 6) Zero based budgeting dismisses that the past is irrelevant and thereby challenges the fundamental theory of continuity. Budgeting is a continuous process of estimating and forecasting about the future and is based on past happenings.

10.7 PERFORMANCE BUDGETING

Performance budgets are framed in such a manner that items of expenditure and receipts for a budget period related to a specific responsibility centre are linked with the physical performance of that centre. The main issue involved in the preparation of performance budgets is the development of work programmes and performance expectation by assignment of responsibility. It is essential for the attainment of the objectives.

In this approach, there is not only a financial plan but also a work plan in terms of work done or end-products produced. Thus, it gives a broader view to the budget as a plan and programme of action rather than only as an instrument for obtaining funds. In fact, it makes the integration of inputs with the outputs of a development programme.

According to National Institute of Bank Management, performance budgeting technique is, “ the process of analysing, identifying, simplifying and crystallising specific performance objectives of a job to be achieved over a period, in the framework of the organisational objectives, the purpose and objectives of the job. The technique is characterised by its specific direction towards the business objectives of the organisation.”

The main objectives of performance budgeting are :

- i) to coordinate the physical and financial aspects,
- ii) to improve the budget formulation, review and decision making at all levels of management,
- iii) to facilitate better appreciation and review by controlling authorities as the presentation is more purposeful and intelligible,
- iv) to make more effective performance audit possible, and
- v) to measure progress towards long term objectives which are envisaged in a development plan.

Performance budgeting requires preparation of periodic performance reports. Such reports compare budget and actual data, and show variances. Their preparation is greatly facilitated if the authority and responsibility for the incurrence of each cost element is clearly defined within the firm's organisational structure. The responsibility for preparing the performance budget of each department lies on the respective department head. Periodic reports from various sections of a department will be required by the departmental head who will submit a summary report about his department to the budget committee. The report will be in the form of comparison of budgeted and actual figures both periodic and cumulative. The purpose of preparing these reports is to promptly inform about the deviations in actual and budgeted activity to the person who has the necessary authority and responsibility to take necessary action to correct the deviations from the budget.

Thus, performance budgeting lays immediate stress on the achievement of specific goals over a period of time. However, in the long-run it aims at continuous growth of the organisation so that it continues to meet the dynamic needs of its growing clientele. It enables the organisation to be sensitive and adaptive, preventing it from developing rigidities which may retard the process of growth.

A comparison of the master budget with the flexible budget and with actual results forms the basis for analyzing difference between plans and actual performance. The difference between operating profits in the master budget and operating profits in the flexible budget is called an activity variance. When the change from the master budget to the flexible budget is due to changes in sales volume, the activity variance is known as the sales volume variance. The variance may be favourable or unfavourable variance. Let us take the following illustration.

Illustration 4

Z Ltd had a profit plan approved for selling 5,000 units per month at an average price of Rs. 10 per unit. The budgeted variable cost of production was Rs. 4 per unit and the fixed costs were budgeted at Rs 20,000, the planned income being Rs. 10,000 per month. Due to shortage of raw materials, only 4,000 units could be produced and the cost of production increased by 50 paise per unit. The selling price was raised by

Rs. 1.00 per unit. In order to improve the production process, an expenditure of Rs. 1,000 was incurred for research and development activities.

You are required to prepare a Performance Budget and find out the variance.

Solution

**Z Ltd
Performance Budget**

	Original Plan (5000 units) Rs.	Adjusted Plan (4000 units) Rs.	Actual Position (4000 units) Rs.	Variance (Rs.)
Sales Revenue	50,000	40,000	44,000	4000 (F)
Variable Costs	20,000	16,000	18,000	2000 (U)
Contribution	30,000	24,000	26,000	2000 (F)
Fixed Costs	20,000	20,000	21,000	1000 (U)
Net Income	10,000	4,000	5,000	1000 (F)

Flexible budget variance = Rs. 5000 – Rs. 4000 = Rs. 1000 (F)

Illustration 5

From the following information prepare the performance budget of ABC Company Ltd for the month of December, 2005.

Variables	Actual (Based on actual activity of 10,000 units sold) Rs.	Flexible Budget (based on actual activity of 10,000 units sold) Rs.	Master budget (based on a prediction of 8,000 units sold) Rs.
Sales Revenue	2,10,000	2,00,000	1,60,000
Manufacturing costs	1,05,440	1,00,000	80,000
Marketing and administrative costs	11,000	10,000	8,000
Fixed costs	65,000	60,000	60,000

Solution

Performance Budget of ABC Co. Ltd for the month of December 2005

Variables	Actuals (based on actual activity of 10,000 units sold) Rs.	Variance Rs.	Flexible Budget (Based on actual activity of 10,000 units sold) Rs.	Variance Rs.	Master Budget (based on a prediction of 8000 units sold) Rs.
Sales Revenue	2,10,000	10,000 (F)	2,00,000	40,000 (U)	1,60,000
Less: Mafg. Costs and Administrative costs	1,16,440	6,440 (U)	1,10,000	22,000 (U)	88,000
	93,560	3,560 (F)	90,000	66,000 (U)	72,000
Less : Fixed Cost	65,000	5,000 (F)	60,000	—	60,000
Profit	28,560	1440 (U)	30,000	18,000 (F)	12,000

Total Variance from Flexible Budget = Rs. 1440 (U)

Total Variance from Master Budget = Rs. 18,000 – Rs. 1440 = Rs. 16,560 (F)

10.8 BUDGETARY CONTROL RATIOS

Three important ratios are commonly used by the management to find out whether the deviations of actuals from budgeted results are favourable or otherwise. These ratios are expressed in terms of percentages. If the ratio is 100% or more, the trend is taken as favourable. The indication is taken as unfavourable if the ratio is less than 100.

These ratios are:

- 1) Activity Ratio
- 2) Capacity Ratio
- 3) Efficiency Ratio

Let us study these ratios in brief.

1) Activity Ratio

It is the measure of the level of activity attained over a period. It is obtained when the number of standard hours equivalent to the work produced are expressed as a percentage of the budgeted hours.

$$\text{Activity Ratio} = \frac{\text{Standard hours for actual production}}{\text{Budgeted hours}} \times 100$$

2) Capacity Ratio

This ratio indicates whether and to what extent budgeted hours of activity are actually utilised. It is the relationship between the actual number of working hours and maximum possible number of working hours in budget period.

$$\text{Capacity Ratio} = \frac{\text{Actual hours worked}}{\text{Budgeted hours}} \times 100$$

3) Efficiency Ratio

The ratio indicates the degree of efficiency attained in production. It is obtained when the standard hours equivalent to the work produced are expressed as a percentage of the actual hours spent in producing that work.

$$\text{Efficiency Ratio} = \frac{\text{Standard hours for actual production}}{\text{Actual hours worked}} \times 100$$

Illustration 6

A factory manufactures two types of articles namely X and Y. Article X takes 10 hours to make and article Y requires 20 hours. In a month (25 days of 8 hours each) 500 units of X and 300 units of Y are produced. The budget hours are 8500 per month. The factory employs 60 men in the department concerned. Compute Activity Ratio, Capacity Ratio and Efficiency Ratio.

Solution

Standard hours for actual production	Hrs.
X : 500 units × 10	5,000
Y : 300 units × 20	6,000
	<u>11,000</u>
Budgeted Hours	8,500
Actual Hours worked (60 × 8 × 25)	12,000

$$\text{Activity Ratio} = \frac{\text{Standard hours for actual production}}{\text{Budgeted hours}} \times 100$$

$$= \frac{11000}{8500} \times 100 = 129\%$$

$$\text{Capacity Ratio} = \frac{\text{Actual hours worked}}{\text{Budgeted Ratio}} \times 100$$

$$= \frac{12000}{8500} \times 100 = 141\%$$

$$\text{Efficiency Ratio} = \frac{\text{Standard hours for actual production}}{\text{Actual hours worked}} \times 100$$

$$= \frac{11,000}{12,000} \times 100 = 92\%$$

10.9 BEHAVIOURAL CONSIDERATION

Basically budgets are prepared on the basis of past data available after considering the changes in future conditions. However, it must be kept in mind that human behaviour is volatile in nature. So, the preferences will change in future if there are changes in level of living, earning capacity, awareness about the new product, health consciousness, etc. Therefore, at the time of preparing the budget, the factors which affect the behaviour of human being, must be considered, because, these factors make drastic changes in the demand position of any product and budget estimates will not find near to actual data/ results.

Check Your Progress

- 1) State the differences between fixed and flexible budgeting.
 - a)
 - b)
 - c)
 - d)

2) What is meant by Appropriation Budgeting ?

.....

.....

.....

3) What are the budgetary control ratios ?

.....

.....

.....

4) Fill in the blanks :

- a) A budget which is designed to remain unchanged irrespective of the level of activity is called
- b) A budget which is prepared to change according to the level of activity is called
- c) When a budget is prepared only for a particular activity such budgeting is called
- d) A system of establishing financial plans beginning with an assumption of no activity is called
- e) The difference between operating profits in the master budget and flexible budget is called variance.

5) State whether each of the following statement is true or false.

- a) Fixed budgeting is useful when there is no significant variations in the budgeted output and actual output []
- b) Incase of industries where the demand for goods is stable and budget period is short flexible budgeting is suitable for them []
- c) Flexible budgeting is also called sliding scale budget. []
- d) Budgets are prepared only for operational activities of an organisation []
- e) A zero-base budgeting is prepared on the assumption that the budget for previous period is nil []
- f) Performance budgeting lays immediate stress in the achievement of specific goals over a period of time. []
- g) Fixed budget is suitable for fixed expenses []
- h) Every item of budget has to be justified when a zero based budgeting is prepared. []
- i) Fixed budget is more useful than a flexible budget. []

10.10 LET US SUM UP

A budget prepared on the basis of a standard level of activity is known as fixed budget. It does not change with the change in the level of activity. It is useful when there is no significant changes between the budgeted output and actual output. Flexible budget is a budget prepared in a manner so as to give the budgeted cost for any level of activity. The likely changes in the actual circumstances are taken into account while preparing the flexible budget. A series of budgets would be prepared at different levels of activity. Budgets are prepared not only for regular business activities but also for any particular purpose. When budgets are prepared for only a particular activity it is called appropriation budget. This type of budget cover different activities in an organisation.

Zero based budgeting suggests that an organisation should not only make decisions about the proposed new programmes but it should also, from time to time, review the appropriateness of the existing programmes. The underlying assumption of zero base budgeting is that the budget for the previous period is zero, therefore whatever costs are likely to be incurred are chalked out and full amount is to be given.

Performance budgeting requires preparation of periodic performance reports. Such reports compare budget and actual data, and show variances. There are three important ratios commonly used by the management to find out whether the deviations of actuals from budgeted results are favorable or otherwise. These ratios are : Activity ratio, capacity ratio and efficient ratio.

10.11 KEY WORDS

Appropriation Budgeting : A budget which is prepared only for a particular activity/work

Flexible Budget : A budget which is designed to change in accordance with the level of activity attained.

Fixed Budget : A budget which remains unchanged whatever the actual level of activity.

Zero-Based Budgeting : A system of establishing financial plans beginning with an assumption of no activity and justifying each programme or activity level.

10.12 ANSWERS TO CHECK YOUR PROGRESS

- 4) (a) Fixed budgeting (b) flexible budgeting (c) Appropriation budgeting
(d) Zero based budgeting (e) Activity
- 5) a) True b) False c) True d) False e) True
f) True g) True h) True i) False

10.13 TERMINAL QUESTIONS

- 1) What are fixed and flexible budgets? Differentiate between these two.
- 2) What do you understand by zero base budgeting? How is it different from traditional budgeting?
- 3) Why do accountants prepare a budget for a period that is already over when we know the actual results by then? Explain.
- 4) Why is a variable costing format useful for performance evaluation?
- 5) What are the three important control ratios? Explain them in brief.

- 6) "Performance budgeting requires preparation of periodic performance reports" Explain.
- 7) A single product manufacturing company is currently producing 12,000 units (at 60% capacity). The following particulars relating to its cost structure are available :

	Per Unit (Rs.)
Direct materials	5
Direct Labour (Variable)	2
Manufacturing overheads (60% fixed)	5
Administrative overheads (fixed)	2
Selling and distribution overheads (40% variable)	<u>3</u>
Cost of sales	17
Profit	<u>3</u>
Selling price	<u>20</u>

You are required to prepare a flexible budget for 60%, 80% and 100% activity levels taking into account the following additional information :

- 1) if activity exceeds 60%, a 5% quantity discount on raw materials on account of increase in the total quantity will be received
- 2) The present fixed cost structure will remain constant upto 90% capacity, beyond which a 20% increase in cost is expected.
- 3) The present unit selling price will remain constant upto 70% activity level, beyond which a 2 ½ % reduction in original price for increase in activity by every 5% is contemplated.

(Ans. At 60% : Rs. 36,000, at 80% : Rs. 71,200, at 100 : Rs. 53,080)

- 8) The following data are available in a manufacturing company for the period of a year.

	Rs. ('000)
Fixed expenses :	
Wages and salaries	950
Rent, rates and taxes	660
Depreciation	740
Sundry administrative expenses	650
Semi-variable expenses : (at 30% of capacity)	
Maintenance and repairs	350
Indirect labour	790
Sales department salaries etc.	380
Sundry administrative expenses	280
Variable expense : (at 50% of capacity)	
Materials	2,170
Labour	2,040
Other expenses	<u>790</u>
	<u>9800</u>

Assume that the fixed expense remain constant for all levels of production; semi-variable expenses remain constant between 45% and 65% of capacity, increasing by 10% between 65% and 80% capacity, and by 20% between 80% and 100% capacity.

Sales at various levels are :

	Rs. (Lakhs)
50% capacity	100
60% capacity	120
75% capacity	150
90% capacity	180
100% capacity	200

Prepare the flexible budget for the year and forecast the profits at 60%, 75% 90% and 100% of capacity.

(Ans. : 60% Rs. 12 lakhs, 75% Rs. 25.2 lakh, 90% Rs. 38.4 lakhs, 100% Rs. 47.4 lakhs)

- 9) A manufacturing Co. Ltd operates a system of flexible budgetary control. A flexible budget is required to show levels of activity of 80%, 90% and 100%. The following information is available :
- 1) Sales, based on normal level of activity of 80% are 8,00,000 units at Rs. 10 each. If output is increased to 90%, it is thought that the selling price should be reduced by 2 ½% , and if output reached is 100%, it would be necessary to reduce the original price by 5% in order to reach a wider market.
 - 2) Prime costs are :

Direct material	Rs. 3.50
Direct labour	Rs. 1.25
Direct expense	<u>Rs. 0.25</u>
	<u>Rs. 5.00</u>

If output reaches at 90% level of activity as above, the purchase price of raw material will be reduced by 5%.
 - 3) Variable overheads, salesmen's commission is 5% on sales value.
 - 4) Semi-variable overheads at normal level of activity are :

	Rs.
Supervision	80,000
Power	70,000
Heat and light	40,000
Maintenance	50,000
Indirect labour	1,00,000
Salesmen's expenses	60,000
Transport	2,00,000

Semi-variable overheads are expected to increase by 5% if output reaches a level of activity of 90%, and by a further 10% if it reaches the 100% level.

5) Fixed overheads are :	Rs.
Rent and rates	1,00,000
Depreciation	4,00,000
Administration	7,50,000
Sales department	2,00,000
Advertising	5,00,000
General	50,000

(Ans : 80% Rs. 10 lakhs, 90% Rs. 1363750, 100% Rs. 1507000)

- 10) A department of a Company X attains sales of Rs. 3,00,00 at 80% of its normal capacity and its expenses are given below :

Administration Costs:

Salaries : Rs. 45,000, General expenses 2% of sales,
Depreciation Rs. 3,750, Rates and taxes Rs. 4,375

Selling Costs :

Salaries 8% of sales, Travelling expenses 2% of sales,
Sales expenses 1% of sales, general expenses 1% of sales.

Distribution Costs :

Wages Rs. 7,500, Rent 1% of sales, other expenses 4% of sales.

Prepare a flexible administration, selling and distribution costs budget, operating at 90% and 100% of normal capacity.

	90%	100%
(Ans. : Administration costs	Rs. 59,875	Rs. 60,625
Selling Costs	Rs. 40,500	Rs. 45,000
Distribution Costs	Rs. 14,375	Rs. 26,250
Total	<u>Rs. 1,14,750</u>	<u>Rs. 1,31,875</u>

- 11) From the following particulars relating to XYZ company for the month of November, 2003 prepare a report comprising actual results with the flexible and master budget.

Units produced and sold : 50,000 (Budgeted sales 45,000 units)

Selling price per unit : Rs. 10 (Budgeted Rs. 11 per unit)

Actual variable cost per unit : Rs. 5 (Budgeted Rs. 4 per unit)

Actual fixed overhead : Rs. 83,000 (Budgeted Rs. 80,000)

Actual fixed administration cost : Rs. 96,000 (Budgeted Rs. 1,00,000)

Actual Variable administration Cost : Rs. 62,500 (Budgeted Rs. 1 per unit)
(50,000 units @ 1.25 per unit)

[Ans. : Total variance from flexible budget : Rs. 1,27,500 (Unfavourable)]
Total variance from Master budget : Rs. 2,39,000
(Unfavourable)]

- 12) From the following controllable and non-controllable costs relating a manufacturing company for 31st March, 2003, prepare a performance budget by comparing actual results with the flexible and master budget :

Standard budget based on 20,000 units :

Controllable Costs :		Non Controllable Costs :	
	Rs.		Rs.
Indirect Labour	70,000	Supervision	34,000
Indirect material	20,000	Rates and taxes	12,000
Fuel and power	56,000	Insurance	2,000
Maintenance	12,000	Depreciation	15,000
	<u>1,58,000</u>		<u>63,000</u>

The actual production during the year was as follows :

Controllable costs :	Actual Costs	Budget based on 18,000 units actuals
	Rs.	Rs.
Indirect labour	63,000	65,000
Indirect material	21,000	18,000
Fuel and power	56,000	51,400
Maintenance	12,000	11,600
	<u>1,52,000</u>	<u>1,46,000</u>
Non-controllable costs :		
Supervision	32,980	31,600
Rates and taxes	12,000	12,000
Insurance	2,000	2,000
Depreciation	15,000	15,000
	<u>61,980</u>	<u>61,600</u>

[Ans. Total Variance from flexible budget : Controllable costs Rs. 6000 (U), Non Controllable Costs : Rs. 1380 (U), Total variance from Master budget : Controllable costs : Rs. 6000 (F) Uncontrollable costs : Rs. 1020 (F)]

Note : These questions will help you to understand the unit better. Try to write answers for them. But do not submit your answers to the University. These are for your practice only.

10.14 FURTHER READINGS

Prem Chand, 1969, *Performance Budgeting*, Academic Books : New Delhi.

Pyhrr, Peter, A. 1973, *Zero Base Budgeting*, John Wiley and, Sons ; New York.`