

Management Accountancy

Unit 13 Flexible Budget

Structure

- Concept of flexible budget
- Need of flexible budget
- Difference between flexible and static budget
- Preparation of flexible budget

After the completion of this unit, you should be able to:

- Understand the meaning of flexible budget
- State the need of flexible budget
- Differentiate between flexible budget and static budget
- Prepare flexible budget by using formula and table method

13.1 Flexible Budget

Flexible budget has different budgeted costs for the different levels of activity. So, the ascertainment of costs at different level of activity is the main objective of a flexible budget. It is also the tool used by most of the companies to control the overhead cost. A flexible budget is not based on the single level of activity. It covers a range of activity within which the company can operate. A flexible budget can also be defined as a detail plan for controlling overhead costs that is valid in the company's relevant range of activity. On the contrary, static budget is based on a particular planned level of activity.

13.2 Need of Flexible Budget

- (i) Seasonal fluctuations in sales and/ or production, for example in soft drinks industry, sugar industry, food proceeding industry etc.
- (ii) A company which keeps on introducing new products or makes changes in design of its products frequently.
- (iii) Industries engaged in make-to-order business.
- (iv) An industry which is influenced by changes in fashion; and
- (v) General changes in sales.

13.3 Distinction between Fixed and Flexible Budget

Fixed Budget	Flexible Budget
It does not change with actual volume of activity level achieved. Thus it is known as rigid.	It can be changed on the basis of different activity level to be achieved. Thus it is not rigid.
It operates on one level of activity and under one set of conditions. It assumes that there will be no change in the prevailing conditions, which is unrealistic.	It consists of various budgets for different levels of activity.

Here as all costs like -fixed, variable and semi-variable are related to only one level of activity so variance analysis does not give useful information.	Here analysis of variance provides useful information as each cost is analysed according to its behaviour.
If the budgeted and actual activity levels differ significantly, then the aspects like cost ascertainment and price fixation do not give a correct picture.	Flexible budgeting at different levels of activity facilitates the ascertainment of cost, fixation of selling price and tendering of quotations.
Comparison of actual performance with budgeted targets will be meaningless specially when there is a difference between the two activity levels.	It provides a meaningful basis of comparison of the actual performance with the budgeted targets.

13.4 Preparation of Flexible Budget

Flexible budget can prepare by following methods:

- (i) Formula Format
- (ii) Table Format

(i) Formula Format

Formula method of preparation of flexible budget is based on the following equation:

$$BA = FC + (UVC \times LA)$$

Where,

- BA = Budget Allowance
 FC = Total Fixed Cost
 UVC = Unit Variable Cost
 LA = Level of Activity (Outputs)

A proforma of Flexible Budget under Formula Format is given below:

Flexible Budget : Formula Format			
Relevant Range for Use : to Units			
Expenses	Cost Behavior	Fixed Amount	Unit Variable Cost
Direct Material	Variable		Rs. × × ×
Direct Labour	Variable		Rs. × × ×
Departmental Overhead:			
Salaries	Fixed	Rs. × × ×	
Indirect Labour	Semi-variable	Rs. × × ×	Rs. × × ×
Depreciation	Fixed	Rs. × × ×	
Sales Commission	Variable	_____.	Rs. × × ×
Total		Rs. × × ×	Rs. × × ×

(ii) Table Format

While preparing a flexible budget, the following factors should be considered:

- (a) Different levels of activity, in terms of sales units or sales amount or any other activity like labour hours, machine hours etc.

- (b) Cost estimation for each level of activity showing variable and fixed cost separately and if possible semi-variable cost also.

A proforma of Flexible Budget under Table Method is shown below:

Flexible Budget				
Levels of Activity	... %	... %	... %	... %
Activity (Units)	...	...	...	...
A. Variable Costs:				
Direct Material				
Direct Labour				
Direct Expenses				
Total Variable Costs	...	...	...	...
B. Semi-variable Costs:				
Indirect Material				
Indirect Labour	...	...	...	...
Maintenance and Repairs	...	...	...	...
Total Semi-variable Costs	...	...	...	...
C. Fixed Costs:				
Maintenance and Repairs	...	...	...	...
Inspection	...	...	...	...
Depreciation	...	...	...	...
Salaries	...	...	...	...
Insurance	...	...	...	...
Others	...	...	...	...
Total Costs (A + B + C)	...	...	...	...

ILLUSTRATION 1

The following particulars are available from the accounting records of a manufacturing company for the two different levels of output:

Output in Units	60,000	80,000
Direct Materials	Rs. 1,20,000	Rs. 1,60,000
Direct Labour	3,00,000	4,00,000
Direct Chargeable Expenses	60,000	80,000
Consumable Materials	15,000	20,000
Depreciation	10,000	10,000
Maintenance and Repairs	8,000	10,000
Salaries	11,000	11,000
Selling Overhead	6,000	8,000
Inspection	1,600	1,800

Required: Flexible Budget for 60,000 units and 80,000 units by using:

- (a) Formula Method (b) Table Method

SOLUTION:

(a) **Flexible Budget : Formula Method**

Relevant Range for Use : 60,000 units to 80,000 units

Levels of Activity	Cost Behavior	Fixed Amount	Unit Variable Cost
Direct Material	Variable	Rs. –	Rs. 2
Direct Labour	Variable	–	5
Direct Chargeable Expenses	Variable	–	1
Consumable Materials	Variable	–	0.25
Depreciation	Fixed	10,000	–
Maintenance and Repairs	Semi-variable	2,000	0.10
Salaries	Fixed	11,000	–
Selling Overhead	Variable	–	0.10
Inspection	Semi-variable	<u>1,000</u>	<u>0.01</u>
Total		24,000	8.46

Total Cost = Fixed Cost + (Unit Variable Cost × Units)

For 60,000 units = 24,000 + (8.46 × 60,000)
= Rs. 531,600

For 80,000 units = 24,000 + (8.46 × 80,000)
= Rs. 700,800

WORKING NOTES:

i. Maintenance and Repairs:

Unit Variable Cost = $\frac{10,000 - 8,000}{80,000 - 60,000}$
= Rs. 0.10

Fixed Cost = 10,000 – (80,000 × 0.10)
= 10,000 – 8,000
= Rs. 2,000

ii. Inspection:

Unit Variable Cost = $\frac{1,800 - 1,600}{80,000 - 60,000}$
= Rs. 0.01

Fixed Cost = 1,800 – (80,000 × 0.10)
= Rs. 1,000

(b)

Flexible Budget : Table Method

Levels of Activity in Units	60,000	80,000
Variable Costs:	Rs.	Rs.
Direct Material @ Rs. 2	1,20,000	1,60,000
Direct Labour @ Rs. 5	3,00,000	4,00,000
Direct Chargeable Expenses @ Rs. 1	60,000	80,000
Consumable Materials @ Rs. 0.25	15,000	20,000
Selling Overhead @ Rs. 0.10	<u>6,000</u>	<u>8,000</u>
Total Variable Cost	5,01,000	6,68,000

Semi-variable Cost:		
Maintenance and Repairs:		
Fixed	2,000	2,000
Variable @ Rs. 0.10	6,000	8,000
Inspection:		
Fixed	1,000	1,000
Variable @ Rs. 0.01	600	800
Total Semi-variable Cost	<u>9,600</u>	<u>11,800</u>
Fixed Cost:		
Depreciation	10,000	10,000
Salaries	11,000	11,000
Total Fixed Cost	<u>21,000</u>	<u>21,000</u>
Total Cost	<u>5,31,600</u>	<u>7,00,800</u>

ILLUSTRATION 2

With the following data for a 60% capacity, producing 600 units. Prepared a flexible budget at 80% and 100%

Direct Material	Rs. 100 per unit
Direct Labour	Rs. 40 per unit
Direct Expenses	Rs. 10 per unit
Factory Expenses	Rs 40,000 (40% fixed)
Administration Expenses	Rs. 30,000 (60% fixed)

SOLUTION:

Flexible Budget		
Capacity Utilization	80%	100%
Budgeted Output (Units)	<u>800</u>	<u>1,000</u>
Direct Material @ Rs. 100 per unit	80,000	1,00,000
Direct Labour @ Rs. 40 per unit	32,000	40,000
Direct Expenses @ Rs. 10 per unit	8,000	10,000
Factory Expenses:		
Variable @ Rs.40 per unit	32,000	40,000
Fixed	16,000	16,000
Administration Expenses:		
Variable @ Rs.20 per unit	16,000	20,000
Fixed	<u>18,000</u>	<u>18,000</u>
Total Budgeted Cost	<u>2,02,000</u>	<u>2,44,000</u>

ILLUSTRATION 3

The maximum capacity of the company is 30,000 units. Company sales its products @ Rs. 15 per unit. The cost data for 15000 units and 25,000 units are as under:

Units Produced	<u>15,000</u>	<u>25,000</u>
Direct Material	Rs. 30,000	Rs. 50,000
Direct Labour	45,000	75,000
Indirect Material	15,000	25,000
Indirect Labour	30,000	50,000
Supervision	26,250	33,750
Heat, Light and Power	15,250	22,750

Depreciation	63,000	63,000
Insurance	<u>8,000</u>	<u>8,000</u>
Total Cost	<u>2,32,500</u>	<u>3,27,500</u>

Required: Flexible Budget for 20,000 units and 30,000 units.

SOLUTION:

Statement Showing Variable and Fixed Cost

	Variable Cost per Unit	Fixed Cost
Direct Material	Rs. 2.00	–
Direct Labour	Rs. 3.00	–
Indirect Material	Rs. 1.00	–
Indirect Labour	Rs. 2.00	–
Supervision	Re. 0.75	Rs. 15,000
Heat, Light and Power	Re. 0.75	Rs. 4,000
Depreciation	–	Rs. 63,000
Insurance	<u>–</u>	<u>Rs. 8,000</u>
Total	Rs. 9.50	Rs. 90,000

Segregation of Semi-variable Cost

(i) Supervision:

$$\begin{aligned} \text{Variable Cost per Unit} &= \frac{\text{Difference in Cost}}{\text{Difference in Output}} \\ &= \frac{\text{Rs. 7,500}}{10,000 \text{ units}} \\ &= \text{Re. 0.75 per unit.} \end{aligned}$$

$$\begin{aligned} \text{Fixed Cost (at 15,000 units Output)} &= \text{Total Cost} - \text{Total Variable Cost} \\ &= \text{Rs. 26,250} - (\text{Re. 0.75 per unit} \times 15,000 \text{ units}) \\ &= \text{Rs. 15,000.} \end{aligned}$$

(ii) Heat, Light and Power:

$$\begin{aligned} \text{Variable Cost per Unit} &= \frac{\text{Difference in Cost}}{\text{Difference in Output}} \\ &= \frac{\text{Rs. 7,500}}{10,000 \text{ units}} \\ &= \text{Re. 0.75 per unit.} \end{aligned}$$

$$\begin{aligned} \text{Fixed Cost (at 15,000 units Output)} &= \text{Total Cost} - \text{Total Variable Cost} \\ &= \text{Rs. 15,250} - (\text{Re. 0.75 per unit} \times 15,000 \text{ units}) \\ &= \text{Rs. 4,000.} \end{aligned}$$

Flexible Budget

Budgeted Output (Units)	<u>20,000</u>	<u>30,000</u>
Budgeted Sales Revenue @ Rs. 15 per unit	<u>Rs. 3,00,000</u>	<u>Rs. 4,50,000</u>
Less: Budgeted Total Cost:		
Variable Cost @ Rs. 9.50 per unit	Rs. 1,90,000	Rs. 2,85,000
Fixed Cost	<u>Rs. 90,000</u>	<u>Rs. 90,000</u>
Budgeted Total Cost	<u>Rs. 2,80,000</u>	<u>Rs. 3,75,000</u>

Budgeted Profit

Rs. 20,000

Rs. 75,000

ILLUSTRATION 4

Patan memorial hospital uses flexible budgeting for all departments that experience fluctuating service demands. One such department is the hospital cafeteria where the average price of a meal is Rs.3.00. the hospital's chief accounting has gathered the following data:

Costs	Fixed Costs	Variable Cost per Rupees of Sales
	Rs.	Rs.
Food Costs	–	.40
Personnel Wages	10,000	.26
Depreciation	25,000	–
Utilities	6,000	.06
Maintenance	14,000	.03
Insurance	5,000	–

Required: Prepare a Flexible Budget for the Hospital Cafeteria using 75,000, 80,000 and 85,000 meals as the activity level.

SOLUTION:

Patan Memorial Hospital Flexible Budget

	75,000	80,000	85,000
Budgeted Number of Meals	75,000	80,000	85,000
Budgeted Sales Revenue @ Rs. 3 per meal	Rs. 2,25,000	Rs. 2,40,000	Rs. 2,55,000
Variable Costs			
Food Cost @ Rs. 1.20 per meal	90,000	96,000	1,02,000
Personnel Wages Cost @ Rs. 0.78 per meal	58,500	62,400	66,300
Utilities Cost @ Rs. 0.18 per meal	13,500	14,400	15,300
Maintenance Cost @ Rs. 0.09 per meal	6,750	7,200	7,650
Total Variable Costs	1,68,750	1,80,000	1,91,250
Fixed Costs:			
Personnel Wages Cost	10,000	10,000	10,000
Depreciation	25,000	25,000	25,000
Utilities Cost	6,000	6,000	6,000
Maintenance Cost	14,000	14,000	14,000
Insurance	5,000	5,000	5,000
Total Fixed Costs	60,000	60,000	60,000
Budgeted Total Cost (Variable + Fixed)	2,28,750	2,40,000	2,51,250
Budgeted Profit (Loss)	(3,750)	0	3,750

ILLUSTRATION 5

A campus canteen provides meals at cost plus 10% profit.

The cost records exhibited the following data:

	Variable Cost per Meal (Rs.)	Annual Fixed Cost (Rs.)

Food Items	10	–
Wages for the Manpower Involved	5	120,000
Utility and Services	3	60,000

Required: Flexible budget for 20,000 meals for the 1st half and 30,000 for the second half year showing the price to be charged.

SOLUTION:

Flexible Budget			
Budgeted Period	1st Half Year	2nd Half Year	Total Year
Budgeted Number of Meals	20,000	30,000	50,000
Budgeted Variable Costs:			
Food Items @ Rs. 10	2,00,000	3,00,000	5,00,000
Wages for the Manpower @ Rs. 5	1,00,000	1,50,000	2,50,000
Utility and Services @ Rs. 3	60,000	90,000	1,50,000
Total Budgeted Variable Cost @ Rs. 18	3,60,000	5,40,000	9,00,000
Budgeted Fixed Costs:			
Wages for the Manpower	60,000	60,000	1,20,000
Utility and Services	30,000	30,000	60,000
Total Budgeted Fixed Costs	90,000	90,000	1,80,000
Budgeted Total Cost (Variable + Fixed)	4,50,000	6,30,000	10,80,000
Add: Desired Profit (10% on Cost)	45,000	63,000	1,08,000
Total Budgeted Sales Value	4,95,000	6,93,000	11,88,000
Sales Price per Meal			Rs. 23.76

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