



# Flexible Budgeting

The most likely tasks in this area fall into the following groups:

-  Using the high-low method to analyse costs and flex the budget
-  Identification and investigation of variances

## ***Using the High-Low Method to Analyse Costs and Flex the Budget***

One of the purposes of budgeting is to exercise control – the budgeted figures are compared with actual results, and significant variances investigated.

For such comparison to be meaningful, it is essential to compare “like with like.” If the comparison reveals that twice as much material has been used as was budgeted, this may give cause for concern. However, if it is then revealed that output was three times as much as budgeted, usage no longer seems bad!

Flexible budgeting allows for meaningful comparison. The original, fixed budget is adjusted and restated at different levels of activity.

Knowledge of cost behaviour (the way that costs change as output changes) is essential. Costs may usually be classified as follows:

<b>Fixed Costs</b>	<i>Do not change as output changes</i>
<b>Variable Costs</b>	<i>Change in proportion to changes in output</i>
<b>Mixed Costs</b>	<i>Contain a fixed and a variable element</i>

Sometimes the nature of individual costs will be stated explicitly in the question. Other questions will require candidates to investigate the nature of costs.

**Example**

Budgets have been prepared for two levels of output, and are reproduced below:

<b>OUTPUT:</b>	<b>12,000 units</b>	<b>15,000 units</b>
Materials	36,000	45,000
Labour	58,000	70,000
Overheads	40,000	40,000
<b>TOTAL COST</b>	<b>134,000</b>	<b>155,000</b>

Restate the budget for an output of 20,000 units.

**Solution**

No separate information is given regarding costs, so the cost behaviour must be investigated. This is accomplished by considering the *changes* in costs between the two levels of output.

Note first that the overhead cost does not change as output changes. This must be a fixed cost, and will therefore remain at £40,000 whatever the level of output.

Consider the material cost next. This changes as output changes, so cannot be purely fixed. At each output, the cost per unit may be calculated as follows:

$$\text{At 12,000 units} \quad \text{£36,000} / 12,000 \text{ units} = \text{£3.00 per unit}$$

$$\text{At 15,000 units} \quad \text{£45,000} / 15,000 \text{ units} = \text{£3.00 per unit}$$

Cost *per unit* does not change as output changes, so materials must be a purely variable cost.

The labour cost is different again. It changes, so cannot be purely fixed. However, examination of the cost per unit will show that this changes too, so the cost cannot be purely variable. It must be a mixed (or semi-fixed, or semi-variable) cost, the elements of which are analysed using the **high-low method**.

Consider the change in output and the corresponding change in cost – when output increases by 3,000 units, cost increases by £12,000.

Realise that this increase *must* represent variable cost only. The fixed element, by definition, will not change as output changes. The £12,000 must be the variable cost of the 3,000 extra units, so variable cost per unit must be:

$$\text{£12,000} / 3,000 \text{ units} = \text{£4.00 per unit}$$

The fixed cost is then identified by substituting this variable cost into either output level:

Total cost of 15,000 units (per question)		£70,000
Variable cost	15,000 units x £4.00	£60,000
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Fixed cost		£10,000
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The behaviour of each cost has now been isolated, and the required budget may be prepared:

<b>OUTPUT:</b>		<b>20,000 units</b>
Materials	(20,000 units x £3.00)	£ 60,000
Labour	{£10,000 + (20,000 x £4.00)}	£ 90,000
Overheads		£ 40,000
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<b>TOTAL COST</b>		<b>£190,000</b>
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This result may be checked by realising that the only change in cost should be the variable element:

Materials	£3.00 per unit
Labour	£4.00 per unit
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	£7.00 per unit
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So,

Total cost at 15,000 units	£155,000
Additional variable cost (5,000 units x £7.00)	£ 35,000
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Total cost at 20,000 units	£190,000
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