MANAGERIAL ACCOUNTING

Lecture 4

BUDGETING,
STANDARD COSTING,
VARIANCE ANALYSIS
4.1 Budgets, long-term plans and corporate objectives
4.2 Time horizon of plans and budgets
4.3 Budgets and forecasts
4.4 The interrelationship of various budgets
4.5 The uses of budgets
4.6 Standard costing: standard quantities and costs
4.7 Variance analysis: comparing the actual performance with the budget
4.1 Budgets, long-term plans and corporate objectives

**Budgeting**

- An activity that most business managers see as one of the most crucial in which they are engaged – developing *plans for the future*.
- Preparing budgets relies on knowledge of the financial statements (balance sheet + income statement).
- It uses many of the issues relating to the behaviour of costs and costing systems.
- Budget is a short-term plan for the business, which is prepared within the framework of the long-term plan.
- Budgets are documents that are to be used only internally by a business.
4.1 Budgets, long-term plans and corporate objectives

The planning process

- Identify business objectives
- Consider options
- Evaluate options and make a selection
- Prepare long-term plans (long-term budgets)
- Prepare budgets (short-term)
4.1 Budgets, long-term plans and corporate objectives

**Long-term plan** would define the *general direction of the business over the next five years*:

- The market that the business will seek to serve
- Production/service rendering methods
- Offer to customers
- Target levels of profit and returns to shareholders
- Financial requirements and financing methods
- Personnel requirements
- Bought-in goods and service requirements and sources.
4.1 Budgets, long-term plans and corporate objectives

**Budget** is *a business plan for the short term*; is expressed mainly in financial terms; *will define precise targets for*:

- Sales revenues and expenses
- Cash receipts and payments
- Short-term credit to be given or taken
- Inventories requirements
- Personnel requirements

**Corporate objectives** = relations between objectives, long-term plans and budgets, that are likely to last for quite a long time.

A series of long-term plans identify how the objective are to be pursued.

Budgets identify how the long-term plan is to be fulfilled.
4.2 Time horizon of plans and budgets

Very typical time periods found in practice:
- **Long-term plans**: 5 years
- **Budgets**: 12 months

It need not necessarily be that case! *(e.g. for information technology 5 years is too long period)*

- Annual budget sets targets for the forthcoming year for all levels of the business.
- Annual budget is usually broken down into *monthly budgets* that define monthly targets.
- **Limiting factors affecting the budgets**: ability to sell, production shortage (labour, material, plants), shortage of funds.
4.3 Budgets and forecasts

**Budget** is a business plan for a future period of time, but it is not a forecast.

**Forecast** tends to be prediction of the future state of the environment.

– Is helpful to the planner/budget setter, valuable for those who set sales budgets.
4.4 The interrelationship of various budgets

• for a particular business for a particular period, there is more than one budget – each relates to a specific aspect of the business.

• the content of all of the individual budgets will be summarised in master budgets (consisting usually of a budgeted income statement and balance sheet as well as of summarised form of cash flow statement).

• horizontal as well as vertical relationship between budgets

• All of the operating budgets have to be consistent with the overall short-term plans laid out in the master budget.
4.4 The interrelationship of various budgets

Budgetary framework of a typical manufacturing business

- Trade receivables budget
- Sales budget
- Overheads budget
- Capital expenditure budget
- Direct labour budget
- Finished inventories budget
- Production budget
- Raw materials purchases budget
- Raw materials inventories budget
- Cash budget
- Trade payables budget
4.4 The interrelationship of various budgets

**Sales budget** – the first budget to be prepared, tends to determine the level of activity for next yearly period (sales demand is the most common limiting factor.)

**Finished inventories budget** – under dictate of the sales level and of the policy of the business on finished inventories holding.

**Production budget** is defined by the requirement for finished inventories and dictates the requirement of the individual production departments or sections.

**Raw material inventories budget** is in conjunction with demands of manufacturing and business´s policy on it.
4.4 The interrelationship of various budgets

*Purchases budget* is dictated by the materials inventories budget, which will, in conjunction with the policy of the business on payables payment, dictate the *trade payable*. *Cash budget* is determined by trade payable budget and trade receivables budget; also is affected by *overheads* and *direct labour* and by *capital expenditure*. *Receivables budget* derives through the receivable collection policy from the sales budget.
4.5 The uses of budgets

1. Budgets tend to promote forward thinking and the possible identification of short-term problems. \( \textit{e.g. shortage of production capacity might be identified during the budgeting process} \)

2. Budgets can be used to help co-ordination between the various sections of the business. \( \textit{e.g. purchasing activity} \leftrightarrow \textit{raw material needs} \)

3. Budgets can motivate managers to better performance.

4. Budgets can provide a basis for a system of control.

5. Budgets can provide a system of authorisation.
4.5 The uses of budgets

Larger business – usually most of them prepare and use budgets.

Small and medium-sized enterprises – not all such businesses fully use budgeting.

Some smaller businesses prepare budgets only for what they see as key areas. (usually sales budget, budgeted income statement and overhead budget)
4.5 The uses of budgets for control

The planning process

1. Identify business objectives
2. Consider options
3. Evaluate options and make a selection
4. Prepare long-term plans (long-term budgets)
5. Prepare budgets (short-term)
4.5 The uses of budgets for control

Control process

Perform and collect information on actual performance

Analyse variances

Respond to variances and exercise control

Revise plans (and budgets) if necessary
4.6 Standard costing: standard quantities and costs

= budgeted physical quantities and financial values for one unit of inputs and outputs.

- Building blocks of the budgets
- Useful in providing data for decision making.
- Calculation of most variances is based on standards. Significant and/or persistent variances (favourable, adverse) need to be investigated to establish their cause.
- Good budgetary control requires establishing systems and routines to ensure such things as clear distinction between individual managers‘ areas of responsibility, prompt, frequent and relevant variance reporting and senior management commitment.
4.6 Standard costing: standard quantities and costs
Managing based on standards and variance analysis

- Setting the standards
- Perform and collect information on actual performance
- Comparing the actual performance and budget (standards)
- Variance analysis
- Revise standards if necessary
4.6 Standard costing: standard quantities and costs

Setting the standards for:

- Costs,
- Selling price,
- Profit,
- Sources for unit of outputs (expressed in natural units).

The company sets:

- *Standards of unit costs*
- *Standards of variable costs*
- *Standards of fixed costs*
- *Standards of total amount of outputs*
- *Standards of production lines of outputs* (when heterogenous production)
4.7 Variances‘ analysis

Variances‘ analysis = comparing the actual performance with the standard (i.e. budget)

*Favourable variances:* when actual costs are lower / actual revenues are higher than standard

*Adverse variances:* when actual costs are higher / actual revenues are lower than standard

Timing of variance analysis:
- After completing the activity or period
- „On the fly“ (during running activity or period).
4.7 Variances‘ analysis

Variance analysis of the income (profit) – homogenous production, main factors:

• Selling price
• Variable costs
• Fixed costs
• Volume of sales.

Use: to detect the reasons on the differences between standard and actual income (profit) and responsibility for them
4.7 Variances’ analysis

Commonly calculated variances:

**Sales volume variance** = difference between the profit as shown in the original budget and the profit as shown in the flexed budget.

**Sales price variance** = difference between actual sales revenue and the sales revenue as shown in the flexed budget.

**Direct material usage variance** = difference between actual usage and budgeted usage, for the actual volume of output, multiplied by the budgeted material cost per unit of material.

**Direct material price variance** = difference between the actual material cost and the actual usage multiplied by the budgeted cost per unit of material.
4.7 Variances’ analysis

Commonly calculated variances:

**Direct labour efficiency variance** = \text{difference} between actual labour time and budgeted time, for the actual volume of output \text{multiplied} by the budgeted labour rate

**Direct labour rate variance** = \text{difference} between actual labour cost and actual labour time \text{multiplied} by the budgeted labour rate

**Fixed overhead spending variance** = \text{difference} between the actual and budgeted spending on fixed overhead.
4.7 Variances’ analysis

Reasons for adverse variances

**Sales volume**
- Poor performance by sales personnel
- Deterioration in market conditions between the setting of the budget and the actual event
- Lack of inventories or services to sell as a result of some production problem.

**Sales price**
- Poor performance by sales personnel
- Deterioration in market conditions between the setting of the budget and the actual event.

**Fixed overhead**
- Poor supervision of overheads
- General increase in costs of overheads not taken into account in the budget.
4.7 Variances’ analysis

Reasons for adverse variances

Direct material usage
- Poor performance by production department staff, leading to high rates of scrap.
- Substandard materials, leading to high rates of scrap.
- Faulty machinery, causing high rates of scrap.

Direct material price
- Poor performance by the buying department staff.
- Change in market conditions between setting the standard and the actual event.

Labour rate
- Poor performance by the personnel function.
- Using a higher grade of worker than was planned.
- Change in labour market conditions between setting the standard and the actual event.
4.7 Variances’ analysis

Reasons for adverse variances

Labour efficiency

• Poor supervision
• A low skill grade of worker taking longer to do the work than was envisaged for the correct skill grade
• Low-grade materials, leading to high levels of crap and wasted labour time.
• Problems with a customer for whom a service is being rendered.
• Problems with machinery, leading to labour time being wasted
• Dislocation of materials supply, leading to workers being unable to proceed with production.
## EXAMPLE

<table>
<thead>
<tr>
<th></th>
<th>Budget for June</th>
<th>Actual for June</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Output (production and sales)</strong></td>
<td>1100 units</td>
<td>1150 units</td>
</tr>
<tr>
<td><strong>Sales revenue (€)</strong></td>
<td>110,000</td>
<td>113,500</td>
</tr>
<tr>
<td><strong>Raw materials (€)</strong></td>
<td>44,000 (44,000 metres)</td>
<td>46,300 (46,300 metres)</td>
</tr>
<tr>
<td><strong>Labour (€)</strong></td>
<td>22,000 (2,750 hours)</td>
<td>23,200 (2,960 hours)</td>
</tr>
<tr>
<td><strong>Fixed overhead (€)</strong></td>
<td>20,000</td>
<td>19,300</td>
</tr>
<tr>
<td><strong>Operating profit</strong></td>
<td>?</td>
<td>?</td>
</tr>
</tbody>
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**TASKS:**
1. Flexing the June budget
2. Total variance in profit
3. Sales volume variance
4. Sales price variance
5. Direct materials usage variance
6. Direct materials price variance
7. Direct labour efficiency variance
8. Direct labour rate variance
9. Fixed overhead spending variance