Chapter 13

STANDARD COSTING AND BASIC VARIANCE ANALYSIS

1. Introduction

In an earlier chapter we stated that one important use that is made of budgets is that of controlling. As the company progresses through the year, the budget gives us something to which we can compare the actual results in order to help identify any problems. Having identified problems we can then investigate as to whether or not these problems can be controlled in the future.

In this chapter we will look at the setting of standard costs for these purposes and also revise from your earlier studies the calculations of variances (or differences) between actual and budgeted results.

NOTE: You will not be asked full questions calculating basic variances, but you can be examined on them as part of an advanced variances question (see the next chapter) and you are expected to understand them.

2. Standard costs

Standard costing is a system of accounting based on pre-determined costs and revenue per unit which are used as a benchmark to assess actual performance and therefore provide useful feedback information to management.

Illustration 1

Standard cost card for Product X

	$ per unit	
Sales price		100
Materials	(2 kg @ $20/kg)	40
Labour	(1.5 hrs @ $2/hr)	3
Variable o/h	(1.5 hrs @ $6/hr)	9
Fixed o/h	(1.5 hrs @ $10/hr)	15
Standard cost of production		67
Standard profit per unit		33

2.1. Uses of standard costing

- inventory valuation (for internal and/or external use)
- as a basis for pricing decisions
- for budget preparation
- for budgetary control
- for performance measurement
- for motivating staff using standards as targets

2.2. Limitations of standard costing

- accurate preparation of standards can be difficult
- it may be necessary to use different standards for different purposes (see next section)
- less useful if not mass production of standard units
- traditional standards are based on companys own costs – a more modern approach is benchmarking, where the practices of other organisations are taken into account
- the use of standard costing can lead to an over-emphasis on quantitative measures of performance at the expense of qualitative measures (e.g. customer satisfaction; employee morale)

2.3. Types of standards

Ideal standard

Calculated assuming that perfect conditions apply.

E.g. 100% efficiency from men and from machines.

Could form the basis for long-term aims, but not useful for variance analysis because unattainable.

Basic standard

This is a long-run underlying average standard.

It is only really of use in very stable situations where there are unlikely to be fluctuations in prices, rates etc..

Expected standard

This is a standard expected to apply to a specific budget period and is based on normal efficient operating conditions.

This is used for variance analysis routine reporting. However, it may be too 'easy' to be used as a target.

Current standard

This is the current attainable standard which reflects conditions actually applying in the period under review.

This should be used for performance appraisal, but the calculation of a 'fair' current standard can be complicated and time-consuming.

3. Variance analysis

In the chapter on budgeting, we looked at the comparison between the actual results for a period and the flexed budget. The differences between the two are know as the variances.

In this section we will repeat the exercise, and then analyse them into their different components. If we are to investigate variances properly and use them for control, then it is important that we should analyse the reasons for their occurrence.

3.1. Total variances

Example 1

A company has prepared the following standard cost card:

	$ per unit
Materials (4 kg at $4.50 per kg)	18
Labour (5 hrs at $5 per hr)	25
Variable overheads (5 hrs at $2 per hr)	10
Fixed overheads (5 hrs at $3 per hr)	15
	$68

Budgeted selling price $75 per unit.

Budgeted production	8,700 units
Budgeted sales	8,000 units

There is no opening inventory

The actual results are as follows:

Sales:	8,400 units for $613,200
Production:	8,900 units with the following costs:

Materials (35,464 kg)	163,455
Labour (45,400 hrs paid, 44,100 hrs worked)	224,515
Variable overheads	87,348
Fixed overheads	134,074

Prepare a flexed budget and calculate the total variances

3.2. Analysis of variances

The total variance that we have calculated for materials indicates that the actual expenditure on materials was not $18 per unit. However, this could be either because we used the wrong amount of materials (which should have been 4 kg per unit) or that we paid the wrong price (which should have been $4.50 per kg). More likely of course, it would be a combination of the two.

We will therefore analyse this and the other variances in as much detail as possible.

Example 2

Using the data from example 1, analyse the variances and use them to produce on Operating Statement reconciling the budgeted profit with the actual profit.

3.3. Marginal costing

In the previous example, the company had been using absorption costing. They could alternatively have used marginal costing. The variances will be calculated in very much the same way, but when using marginal costing the focus is on contribution (rather than profit) and the fact that we will not be absorbing fixed overheads means that any fixed overhead volume variance is not relevant.

Example 3

Using data from example 1
(a) prepare the original fixed budgets using marginal costing
(b) prepare an Operating Statement using a marginal costing approach

3.4. Interpretation of variances

Example 4

In the previous example there was a materials price variance.

Suggest possible reasons for its occurrence.