

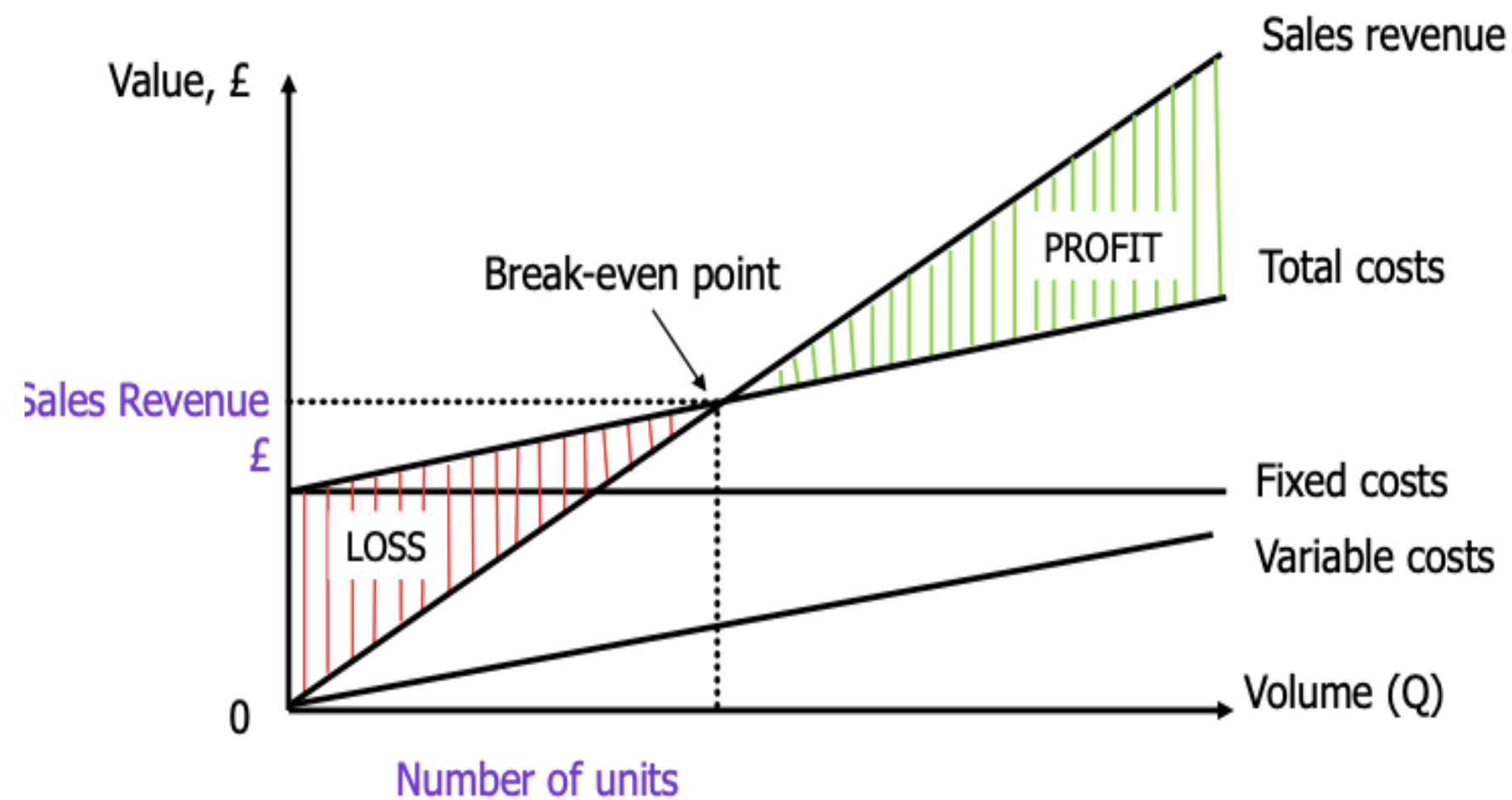
Management Accounting

PRACTICAL CLASS 12



CVP Analysis

HOW PROFITABILITY IS AFFECTED BY VOLUME



$$\text{Unit Contribution Margin (CM}_{\text{Unit}}) = \text{Price} - \text{VC}$$

How much does each unit contributes to profit

$$\text{CM}_{\%} = \frac{\text{CM}_{\text{unit}}}{P} * \frac{Q}{Q} = \frac{\text{CM}}{\text{Sales Revenue}}$$

%of sales available to cover FC and profit

$$\text{BEP}_{\text{Units}} = \frac{\text{FC}}{P - \text{VC}} , \quad \text{BEP}_{\text{€}} = \text{BEP}_{\text{Units}} * \text{Price}$$

Level of Sales such that Profit = 0

$$\text{Safety Margin 1} = \frac{\text{Sales} - \text{BEP}}{\text{BEP}}$$

Sales are x% above the BEP

$$\text{Safety Margin 2} = \frac{\text{Sales} - \text{BEP}}{\text{Sales}}$$

Sales may decline x% before the firm incurs into a loss

Exercise

27 – BOA PINGA COMPANY

CVP Analysis

PROFIT LEVEL

Under the CVP Analysis, the Profit of a Company only depends on the volume of the sales against the BEP.

Each unit sold contributes $P - VC$ (CM Unit) to the profit of the firm. The first X ($BEP_{\#}$) units are used to pay the FC, whereas the remaining constitute profit.

Alternatively, from the total value of sales, we know that (CM%)

* Sales is divided among profit and payment of FC.

Let **$X\#$** be the number of units sold by a firm:

$$\pi = (X\# - BEP_{Units}) * CM_{Unit}$$

Similarly, let **$X\text{€}$** be the value of Sales

$$\pi = X\text{€} * CM_{\%} - FC$$