

TOPIC 6

Economic and Financial Management

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Subject: Pharmaceutical Management and Planning

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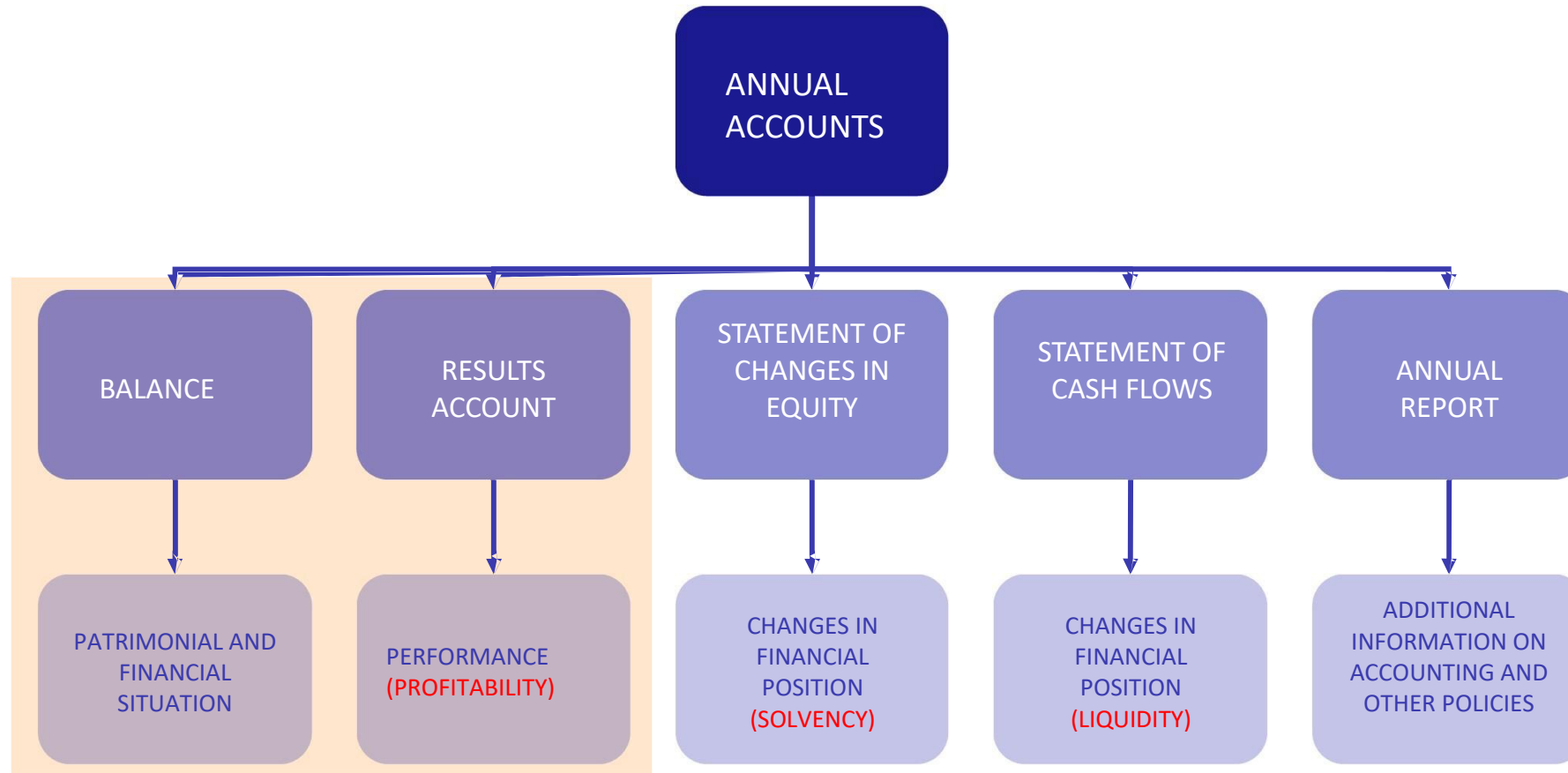
Balance Sheet

Profit and Loss Account

Ratios

Break-Even Point

Main Annual Accounts



Balance Sheet

**Photograph-type
information**

A balance sheet is a financial statement that reports a company's assets, liabilities and shareholder equity at a specific point in time.

Balance Sheet: example

BALANCE SHEET			
<u>ASSETS</u>		<u>LIABILITIES AND EQUITY</u>	
NON-CURRENT ASSETS		EQUITY	
		Equity Capital	
Immaterial Fixed Assets		Reserves	
Material Fixed Assets		NON-CURRENT LIABILITIES	
CURRENT ASSETS		Long-Term Liabilities	
Stocks			
		CURRENT LIABILITIES	
Accounts receivable (debtors)		Short-Term Loan	
Cash		Accounts payable (suppliers)	
TOTAL ASSETS		TOTAL LIABILITIES AND EQUITY	

Balance Sheet: example

BALANCE SHEET			
<u>ASSETS</u>		<u>LIABILITIES AND EQUITY</u>	
NON-CURRENT ASSETS	...	EQUITY	...
		Equity Capital	
Immaterial Fixed Assets		Reserves	
Material Fixed Assets		NON-CURRENT LIABILITIES	...
CURRENT ASSETS	...	Long-Term Liabilities	
Stocks			
		CURRENT LIABILITIES	...
Accounts receivable (debtors)		Short-Term Loan	
Cash		Accounts payable (suppliers)	
TOTAL ASSETS		TOTAL LIABILITIES AND EQUITY	

Less liquid assets

Most liquid assets

Less demandable accounts
Long-term debts
Short-term debts
Less than 3 months max.

ALWAYS
↓ ↓

ASSETS = LIABILITIES AND EQUITY

Example of a balance sheet

- The company FARMA, S.A. presents the following balance sheet items:

Stock: 25,500
 Share capital: 30,000
 Short-term loans: 3,500
 Long-term loans: 16,500
 Fixed assets: 21,000
 Suppliers: 10,000
 Debtors: 10,300
 Cash: 3,200

- Build the balance sheet of FARMA, S.A.

BALANCE SHEET			
<u>ASSETS</u>		<u>LIABILITIES AND EQUITY</u>	
NON-CURRENT ASSETS		EQUITY	
		NON-CURRENT LIABILITIES	
CURRENT ASSETS			
		CURRENT LIABILITIES	
TOTAL ASSETS		TOTAL LIABILITIES AND EQUITY	

Example of a balance sheet

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- Build the balance sheet of FARMA, S.A.

BALANCE SHEET			
<u>ASSETS</u>		<u>LIABILITIES AND EQUITY</u>	
NON-CURRENT ASSETS	21,000	EQUITY	30,000
		Share Capital	30,000
Fixed assets	21,000	NON-CURRENT LIABILITIES	16,500
ACTIU CORRENT	39,000	Long-term loans	16,500
Stock	25,500		
Debtors	10,300	CURRENT LIABILITIES	13,500
Cash	3,200	Short-term loans	3,500
		Accounts payable (suppliers)	10,000
TOTAL ASSETS	60,000	TOTAL LIABILITIES AND EQUITY	60,000

Profit and Loss Account

**VIDEO
INFORMATION**



This account provides information about the financial management of the company and establishes the gains achieved or losses incurred in a certain period, usually one year.

This information covers two types of financial results for the company:

- 1) The Operating Result**, which is based on the income and expenditure of the company's normal activity. It is also called the Ordinary Result.
- 2) The Financial Result**, which is the difference between the company's income (from financial investments, bank interest, etc.) and financial expenditure.

The company's overall results, i.e. Profit Before Tax (*Beneficio Antes de Impuestos*, or BAI, in Spanish), are calculated by adding these two results together.

$$\text{Profit Before Tax} = \text{Operating Result} + \text{Financial Result}$$

Profit and Loss Account

Profit Before Tax = Operating Result + Financial Result

Finally, we calculate the NET RESULT FOR THE YEAR
after deducting taxes on the profit obtained.

$$\mathbf{(PBT) = PBIT + FR}$$

$$\mathbf{Taxes (30\%) = PBT * 0.30}$$



$$\mathbf{NET RESULT = (PBT) - Taxes = PBIT + FR - Taxes}$$

Profit and Loss Account	Year 1 (€)	Year 2 (€)	Year 3 (€)
Turnover (SALES)			
- Cost of sales			
- Purchase of goods			
Gross Margin on Sales			
- Personnel costs			
(Wages and salaries)			
(Other expenses)			
- External services			
Rentals			
Repairs			
Professional services			
Transport costs			
Advertising expenses			
Supplies (water, electricity, etc.)			
Profit before interest and taxes or Operating Result (PBIT)			
+ Financial income			
- Financial expenses			
= Financial Result (FR)			
= Profit Before Tax (PBT) = PBIT + FR			
- Taxes (15%) = PBT * 0,15			
= NET RESULT			

Other ways to submit the Profit and Loss Account

PROFIT AND LOSS ACCOUNT (mod. 1)	PROFIT AND LOSS ACCOUNT (mod. 2)
Net sales	Net sales
- Cost of sales	Variable expenses
INDUSTRIAL MARGIN	GROSS MARGIN
- Commercial or distribution expenses	- Fixed operating expenses
COMMERCIAL MARGIN	
- Administration costs	
(PBT) Profit before Tax	(PBT) Profit Before Tax
- Tax on profits	- Tax on profits
(NR) Net Result	(NR) Net Result

Another example of Balance Sheet + Profit and Loss Account

- FARMA, S.A. presents the following balance sheet and Profit and Loss Account items:

Stock: 25,500	Social Capital : 20,000	Personnel costs: 250,000	Rental expenses: 100,000
Short-term loan: 13,500	Turnover: 1,000,000	Intangible fixed assets: 3,500	Financial expenses: 50,000
Fixed assets and equipment: 21,000	Taxes on profits: 30,000	Purchase of merchandise: 400.000	Long term loan : 16,500
Debtors: 10,300	Suppliers: 10,000	Cash: 3,200	Reserves: 3,500

Another example of Balance Sheet + Profit and Loss Account

- Prepare the Balance Sheet and the Profit and Loss Account of the company.

(Not all cells in the template need to be populated)

BALANCE			
<u>ASSETS</u>		<u>LIABILITIES AND EQUITY</u>	
NON-CURRENT ASSETS		EQUITY	
		NON-CURRENT LIABILITIES	
CURRENT ASSETS			
		CURRENT LIABILITIES	
TOTAL ASSETS		TOTAL LIABILITIES AND EQUITY	

Another example of Balance Sheet + Profit and Loss Account

- Prepare the Balance Sheet and the Profit and Loss Account of the company.

(Not all cells in the template need to be populated)

BALANCE			
<u>ASSETS</u>		<u>LIABILITIES AND EQUITY</u>	
NON-CURRENT ASSETS	24,500	EQUITY	
Inmaterial assets	3,500	Social Capital	20,000
Material assets	21,000	Reserves	3,500
		NON-CURRENT LIABILITIES	16,500
CURRENT ASSETS	39,000	Long-term loans	16,500
Stocks	25,500		
Clients	10,300	CURRENT LIABILITIES	23,500
Cash	3,200	Short-term loans	10,000
			13,500
TOTAL ASSETS	63,500	TOTAL LIABILITIES AND EQUITY	63,500

Profit and Loss account	Year 1 (€)
<p style="text-align: right;">TURNOVER - Cost of sales - Purchase of goods</p>	
<p style="text-align: right;">Gross Margin on Sales</p>	
<p style="text-align: right;">- Operating expenses - (Personnel costs) - (Rental expenses)</p>	
<p style="text-align: right;">Profit before interest and taxes or Operating Result (PBIT)</p>	
<p style="text-align: right;">+ Financial income</p>	
<p style="text-align: right;">- Financial expenses</p>	
<p style="text-align: right;">= Financial Result (FR)</p>	
<p style="text-align: right;">= Profit Before Tax (PBT) = PBIT + FR</p>	
<p style="text-align: right;">- Taxes (15%) = BAI * 0.15</p>	
<p style="text-align: right;">= NET RESULT</p>	

Profit and Loss account	Year 1 (€)
TURNOVER	1,000,000
- Cost of sales	
- Purchase of goods	-400,000
Gross Margin on Sales	600,000
- Operating expenses	
- (Personnel costs)	-250,000
- (Rental expenses)	-100,000
Profit before interest and taxes or Operating Result (PBIT)	250,000
+ Financial income	
- Financial expenses	-50,000
= Financial Result (FR)	-50,000
= Profit Before Tax (PBT) = PBIT + FR	200,000
- Taxes (15%) = BAI * 0.15	- 30,000
= NET RESULT	170,000

Economic and Financial Ratios

- PROFITABILITY RATIOS:

- ✓ **Return on assets (ROA):** Economic return obtained by the company from its investments in assets. It is expressed as:

$$\frac{\text{Operating profit}}{\text{Total Assets}}$$

- ✓ **Return on equity (ROE):** Financial return obtained on equity (**WARNING! This does not include all liabilities**). It is expressed as:

$$\frac{\text{Net Result}}{\text{Equity}}$$

- ✓ **Return on Sales (ROS):** Profitability of sales. It is expressed as:

$$\frac{\text{BAI}}{\text{Sales}}$$

Economic and Financial Ratios

- **LIQUIDITY RATIO:** This represents the company's ability to deal with its short-term debts. It must be greater than 1 and is expressed as:

Debtors + Cash + Banks

Short term Liabilities

Economic and Financial Ratios

- **SOLVENCY RATIO:** This represents how the company can meet its obligations in the short and long term with the assets it owns.
- It must be greater than 1; if it is less than 1, the company is in a situation of technical bankruptcy. It is expressed as:

$$\frac{\text{Total Assets}}{\text{Current liabilities} + \text{Non-current liabilities}}$$

Gross Margin

This is the direct profit a company obtains for a good or service, i.e. the difference between a product's sale price (without VAT) and its production cost. For this reason, it is also known as the profit margin. It is most commonly calculated as a percentage of sales. It is also known as **gross utility**.

Sales - Cost of sales

CAREFUL! This does not include personnel costs, general costs or taxes.

% Gross Margin

This is most commonly presented as a percentage of sales:

$$\frac{\text{Sales} - \text{Cost of Sales}}{\text{Sales}}$$

What is the Gross Margin for?

$$\frac{\text{Gross profit}}{\text{Sales}}$$

This is one of the methods for comparing our company with similar businesses to evaluate whether our company presents a profit according to the sector. FOR EXAMPLE:

Suppose we earn an income of 100 euros from the sale of writing pens and the production of each pen costs 60 euros.

- ✓ **The gross profit or gross margin for each pen would be 40 euros.**
- ✓ **The gross percentual margin is 40%.**
- ✓ In other words, for every euro sold, 40 cents of utility were generated.

The Break-Even Point

- The break-even point is the level of activity at which the company neither gains nor loses money, i.e. its profit is zero.
- Below this level of activity, the company incurs losses.
- Above this level of activity, the company makes a profit.
- To calculate the break-even point, we need to know the following (for the sake of simplicity, we assume that the pharmacy markets only one product):

The company's fixed costs

The variable costs per unit of product

The product's sale price

Break-even point: EXAMPLE

Suppose a company has fixed costs of 100,000 euros. This company only sells one antibiotic, which has a variable cost of 20 euros and a sale price of 30 euros.

The margin the company obtains from antibiotics is:

$$\text{Margin} = \text{Sale price} - \text{variable cost} = 30 - 20 = 10 \text{ euros}$$

The break-even point can then be calculated as follows:

$$\text{E.g.} = \text{fixed costs} / \text{margin per product} = 100,000 / 10 = 10,000 \text{ antibiotics.}$$

In short:

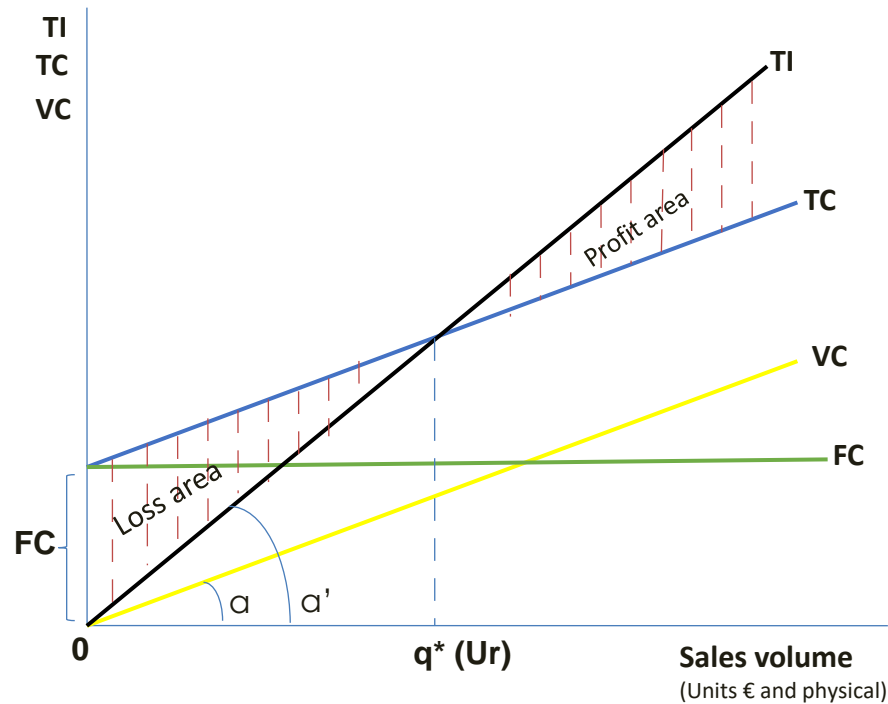
If the company sells 10,000 antibiotics, it does not obtain a profit and does not incur a loss.

So...

If it sells fewer than 10,000 antibiotics, it will incur a loss.

If it sells more than 10,000 antibiotics, it will make a profit.

The profitability threshold



EXAMPLE

- CF=100.000 €.
- CVu=20 €
- PVu=30 €
- $U_R = 100,000 / (30-20) = 10,000$ units

TI: Total Incomes

TC: Total Costs (FC+VC)

VC: Variable Costs

Fc: Fixed Costs or Structural Costs

α : VCu: variable cost per unit

α' : VPu: Variable price per unit

q^* : Sales quantity (u.m.; u.f.) where $TI = TC$

PROFITABILITY THRESHOLD

- QUANTITY OF PRODUCT SOLD THAT GIVES ZERO PROFIT
($TI = TC$)

- Q^* or $U_R = FC / (SPu - VCu)$

$$TI = TC$$

$$TI = FC + VC$$

$$SPu * U = FC + (VCu * U)$$

$$VuP * U - VCu * U = FC$$

$$(VPu - VCu) * U = FC$$

$$U = FC / (SPu - VCu)$$

An alternative method for calculating the break-even point

The break-even point can also be calculated as follows:

The percentage margin the pharmacy obtains with the sale of each product is calculated.

In the previous example, this margin would be:

Margin % = (Sale price - Variable costs) / Sale price = (30 - 20) / 30 = 0.333 = 33%.

In other words, 33.3% of the sale price is the margin for the company.

The break-even point will be:

E.g. = Fixed costs / Margin = 100,000 / 0.333 = 300,000 euros.

With this system, the break-even point is determined in volume of sales (euros) rather than number of units.

As you can see, the solution is identical to the one we obtained with the first system, i.e.:

if the break-even point demands sales of **300,000 euros** and the sale price of each antibiotic is **30 euros**, the company will need to sell **10,000 antibiotics**.

An alternative method for calculating the break-even point

So far, for the sake of simplicity, we have assumed that the company sells only one type of product. However, companies have a wide range of products, each with a different margin.

To calculate the break-even point (BEP) in this case, we use the second method explained in the previous slide.

First, a weighted margin must be calculated based on the weight of the total sales of each product.

For example, suppose that this pharmacy sells antibiotics, anti-flu drugs, and antitussives. The margins for these products are 33.3%, 25% and 15%, respectively.

Sales of antibiotics account for 50% of the total, while sales of anti-flu drugs account for 30%, and sales of antitussives account for 20%.

$$\text{Weighted Margin} = (33.3\% * 0.5) + (25\% * 0.3) + (15\% * 0.2) = 27.15\%$$

An alternative method for calculating the break-even point

Once the weighted margin has been calculated, the break-even (or equilibrium) point is:

$$\text{BEP} = \text{Fixed Costs} / \text{Margin}$$

Assuming that the annual fixed costs of the pharmacy are still 100,000 euros, the break-even point is:

$$\text{BEP} = 100,000 / 0.2715 = 368,324 \text{ €}$$