Lesson 6. Economic/Financial Analysis

Subject: Pharmaceutical Management and Planning

Course: 201920

Degree: Pharmacy/Double Degree in Pharmacy and Human

Nutrition

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Lesson 6: Economic/Financial Analysis

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BASIC REFERENCES

Iborra, M.; Dasí, A.; Dolz, C.; Ferrer, C. (2014): Fundamentos de Dirección de Empresas. Conceptos y habilidades directivas. Segunda Edición. Ed. Paraninfo, Madrid. Chapters 14 and 15.

Castro, I. (2016): De la start-up a la empresa. Ed Pirámide, Madrid. Chapter 7.

6.1. Accounting

- The aim of accounting is to supply the financial information the company needs in order to operate.
- Every financial flow within the company must be monitored and measured, and the information must be adequately presented.
- A set of standardized procedures for all companies allows them to reflect their daily economic activities in an orderly fashion.
- Bookkeeping provides the management with suitable information for making decisions.
- It helps answer questions such as:
 - How much do I have in my bank accounts?
 - How much does a customer owe my company?
 - What is the value of the goods I have in my warehouse?
 - How long does it take on average to collect the money owed by an invoice?
 - How much profit has the company generated in a given period of time?
 - How much VAT should I pay in the next instalment?

6.1. Accounting

What is the Plan General de Contabilidad (PGC)?

- On 16th November, 2007, Royal Decree 1514/2007 was passed in order to adapt companies to European accounting standards. Royal Decree 1515/2007 (a specific plan for SMEs) was also passed.
- It contained a set of norms to fix the procedures and methods that should be followed when registering a company's economic activity.
- These are <u>compulsory</u> and their scope is national and international, i.e. they apply to the national and international activities of all Spanish companies.
- In Spain, no specific authorization or certificate is required to be able to deposit yearly accounts but the approval of the Board of Directors is needed.

6.1. Accounting Structure of the *Plan General Contable* (PGC)

First Part: Conceptual framework

- Accounting principles
- Valuation criteria

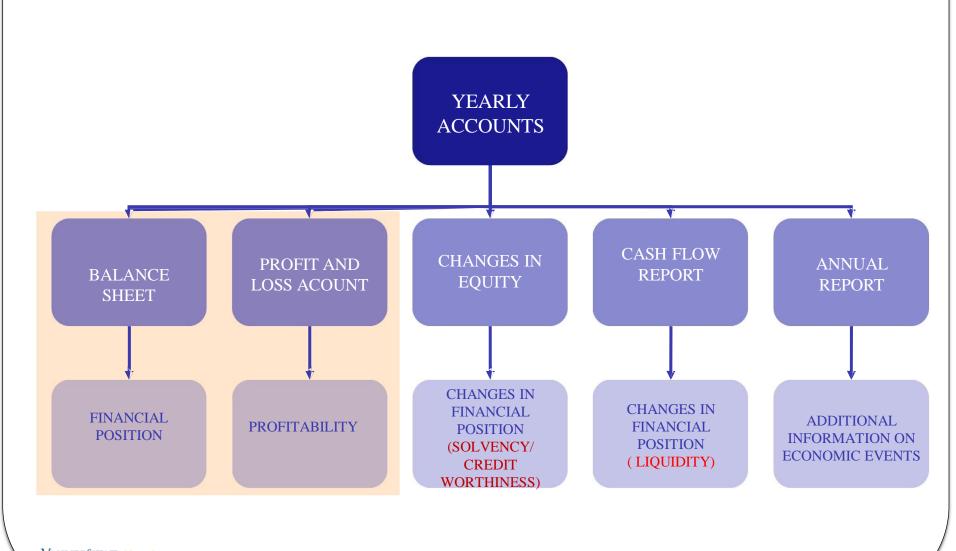
Second Part: Regulations on registration and valuation

Third Part: Yearly accounts

- Profit and loss account
- Balance sheet
- Annual report (memoria)
- Changes in equity



6.1 Accounting





6.1. Accounting

Structure of the Plan General Contable (PGC)

Fourth Part : Ledger Structure (accounts groups)

The PGC divides accounts in 9 groups. The first 5 groups are patrimonial accounts and the last 4 management accounts:

- •Group 1 Financiación Básica (Basic finance)
- Group 2 Inmovilizado (Fixed assets)
- Group 3 Existencias (Goods)
- •Group 4 Acreedores y deudores por operaciones de tráfico (Trade debtors and creditors)
- •Group 5 Cuentas financieras (Financial accounts)
- Group 6 Compras y gastos (Purchases and expenses)
- •Group 7 Ventas e ingresos (Sales and Revenues)
- •Group 8 Gastos imputados al patrimonio neto (Expenses allocated to the equity)
- •Group 9 Ingresos imputados al patrimonio neto (Revenues allocated to the equity)

Fifth Part: Definitions and accounting relationships



The main yearly accounts are the Balance Sheet and the Profit and Loss Account (P/L).

The Balance Sheet is an accounting document that reflects the company's asset situation at a given moment – an 'image' of how the company is doing.

The main aspects are:

ASSETS: Goods, rights and other resources controlled by the company from which it expects to draw future financial profits.

LIABILITIES: Money the company owes to banks, suppliers, the tax authorities, etc.

EQUITY: What remains after deducting the liabilities from the value of the assets. It comprises the money invested by the founders of the company plus or minus the profits not divided among the founders.

ASSET-LIABILITIES=EQUITY

ASSETS

LIABILITIES AND EQUITY

GOODS

(What the firm has)



RIGHTS

(What my debtors owe me)

EQUITY

(Money invested by owners and profits kept in the firm

LIABILITIES

(What is owed by the firm)

Where did the money go?

Where did the money come from?



Yearly Accounts: Balance Sheet

Photograph-type information

Balance de situación

El balance de situación es un documento contable que refleja el patrimonio de una empresa, debidamente valorado, en un determinado momento.

Equity and Liabilities Activo Assets Patrimonio neto y pasivo Patrimonio neto Activo no corriente Inmovilizado intangible Capital Inmovilizado material Reservas De Resultado del ejercicio pendiente de (Amortización acumulada del menor De aplicación inmovilizado) menora mayor mayor liquidez exigibilidad Pasivo no corriente Activo corriente Exigible a largo plazo Existencias Deudores comerciales Pasivo corriente Y otras cuentas a cobrar Exigible a corto plazo Efectivo y otros activos líquidos equivalentes Total activo Total patrimonio neto y pasivo

APPLICATION OF FUNDS

ORIGIN OF FUNDS

Profit and Loss Account

This account provides information about the company's financial management and states the profit achieved or loss incurred in a given period.

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

The **Operating Result**, which is calculated from the revenues and expenses of the company's normal activity.

The **Financial Result**, which is the difference between the company's revenues and expenses of financial origin (financial investments returns, bank interest, etc.).

The overall company results, i.e. the EBT (Earnings Before Taxes), is calculated by adding these two results.

Earnings Before Taxes= Operating Result + Financial Result

al accounts	Año 1 (€)	Año 2 (€)	Año 3 (€)
Importe neto de la cifra de negocios		TE	RNOVER
Compras: mercaderías, materias primas y otros aprovisionamientos Variación de existencias de productos terminados y en curso			
Margen bruto sobre ventas		y-11, 11=================================	
Gastos de personal Sueldos y salarios Seguridad Social a cargo de la empresa Otros gastos sociales			
Servicios exteriores Arrendamientos y cánones Reparaciones y conservación Servicios profesionales independientes Transportes Publicidad, propaganda y relaciones públicas Suministros: luz, agua, teléfono, ADSL, gasoil			
Otros tributos Amortización del inmovilizado Deterioro y resultado por enajenaciones del inmovi- lizado			
Resultado de explotación (antes de intereses e impuestos)			
Ingresos financieros Gastos financieros			
Resultado financiero			
Resultado antes de impuestos			
Impuesto sobre beneficios			
Resultado del ejercicio			

VIDEO INFORMATION

Gross Margin

EBIT-Operating Result

Financial Result **EBT Earnings Before Taxes**

> Company Tax Net Result



6.3 Balance and ratios: gross profitability, EBT

RATIOS

Profitability Ratios:

•Return on Assets (ROA): profitability divided by the investment in assets.

Calculated as: $\frac{Operating Result}{Total assets}$

•Return on Equity (ROE): profitability divided by the company's own funds (equity) rather than the company's entire liabilities

Calculated as: $\frac{Net \, result}{Equity}$

•Return on sales (ROS): profitability of sales

Calculated as: $\frac{Operating Result}{Total sales}$

6.3 Balance and ratios: gross profitability, EBT

RATIOS

Liquidity Ratio: The Liquidity Ratio measures the company's ability to meet its short-term debts. This ratio must be greater than 1.

Calculated as :
$$\frac{Debtors + CAsh + Bank\ Accounts}{Short\ term\ Debt}$$

•Solvency Ratio: Solvency measures the company's ability to meet its shortand long-term debts. This ratio must be greater than 1, otherwise the company's situation is one of technical bankruptcy

Calculated as:
$$\frac{Total \ Assets}{Short \ and \ long \ term \ debts}$$

•Efficiency Ratio: how efficient the firm is

Calculated as:
$$\frac{Turnover}{Total \ Assets}$$

6.4 Variables of benefit and associated cost: Gross margin

Gross Margin is the difference between the sales price (without VAT) and the production or purchase cost of a good or service.

Also known as the Profit Margin, Sales Margin or Commercial Margin, it is calculated as a percentage of the sales price.

Since it is a gross margin, salaries and other expenses are not subtracted. If this margin is negative, business is not possible.

Gross Margin = Revenues from sales – Cost of sales

% Gross Margin = (Revenues from sales – Cost of sales) / Revenues from sales

6.4 Variables of benefit and associated cost: Gross margin

This figure illustrates trends over a period of time and serves as a yardstick for comparisons with other businesses and/or the same business over time.

EXAMPLE:

Imagine our business is to produce fountain pens and that each fountain pen costs 60 euros to produce and is sold for 100 euros.

The gross margin of an item is $100-60 = 40 \in$.

The gross margin in % is 40 €/100 € = 40%, i.e. for each euro sold, we earn 40 cents.

	CUENTA DE RESULTADOS (mod. 1)	
	Ventas netas	
-	Coste de ventas	
	MARGEN INDUSTRIAL	
-	Gastos comerciales o de distribución	
	MARGEN COMERCIAL	
-	Gastos de administración	
	(BAII) Beneficio Antes de Intereses e Impuestos	
-	Gastos financieros	
	(BAI) Beneficio Antes de Impuestos	
-	Impuesto sobre beneficios	
	(BN) Beneficio Neto	

	CUENTA DE RESULTADOS (mod. 2)	
	Ventas netas	
-	Gastos Variables	
	MARGEN BRUTO O DE COBERTURA	
-	Gastos Fijos de Explotación	
((BAII) Beneficio Antes de Intereses e Impuestos	
-	Gastos financieros (Fijos)	
	(BAI) Beneficio Antes de Impuestos	
-	Impuesto sobre beneficios	
	(BN) Beneficio Neto	

Profitability refers to the profits obtained from an investment.

It is a good yardstick for the development of an investment and the ability of the company to pay for the financial resources it has used.

A distinction can be made between economic profitability and financial profitability.

Economic profitability

An economic profitability of 10% means that the firm has earned a profit of 10 € on each 100 € invested.

Interest, taxes and other expenses will be deducted from this economic result. It is what we call EBITDA (Earnings Before Interests, Taxes and Depreciation).

Strategies to increase profitability include raising prices and/or lowering purchase costs. However, since the price of drugs is legally established, our only strategy is to increase sales.

Financial profitability

Financial profitability is the profit each partner obtains from the company, i.e. the profit from his or her investment in that company.

It measures the company's ability to generate profits form its investments. For partners it is more important than economic profitability.

The ratios used to measure financial profitability are explained later.

The pharmacy's gross profit is the profit measured without deducting other expenses.

For an average pharmacy (i.e. with a turnover of roughly 600,000 €), this margin is approximately 30%.

The price of drugs and their gross margins are legally established. This is not true of para-pharmaceutical and other products (e.g. glasses), whose sales prices are not fixed.

A pharmacy with a large number of drug sales (around 80%) will therefore have less gross profit than one that sells a larger number of other products. Para-pharmaceutical and other products have a higher gross profit than drugs.

Net profit is the profit that remains after deducting all other expenses, including salaries, insurance, supplies and rent, from the Gross Profit. This figure is roughly 10-20%.

The most important expenses are salaries and rent.

We therefore need to calculate the minimum amount we need to sell in order to run the business.

The break-even point is the level of sales the pharmacy needs to achieve a zero net profit.

If the pharmacy sells more products, it will make a profit; if it sells fewer products, it will make a loss.

Imagine the pharmacy sells just one product, to calculate the break-even point, we need to know:

- the pharmacy's fixed costs,
- the variable cost per unit of product, and
- the sales price per unit of product.

The difference between the sales price and the unit variable cost is the contribution margin of each unit sold.

By dividing the fixed costs by the contribution margin, we can determine how many units we need to sell to pay for the fixed costs, i.e. the break-even point.

Below is an example. Suppose a pharmacy has a single product with a variable cost of 20 euros, a sales price of 30 euros and fixed costs of 100,000 euros.

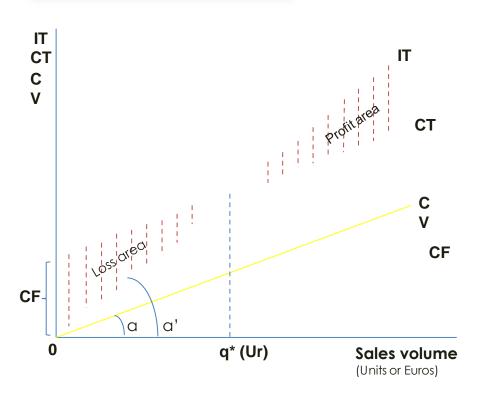
The contribution margin is:

CM = Sales Price - Unit Variable Cost = 30 - 20 = 10 euros

Break-even point = Fixed Costs / Contribution Margin = 100,000 / 10 = 10,000 units of product.

The pharmacy will make a loss if it sells fewer than 10,000 units per year.

BREAKEVEN POINT



IT: Total Revenues

CT: Total Costs (CF+CV)

CV: Variable Costs

CF: Fixed Costs (Structure Costs)

a: CVu: UNIT VARIABLE COST

a': PVu: UNIT SALES COST

q*: Sales level, where IT = CT

BREAKEVEN POINT

□SALES LEVEL WHERE PROFIT IS ZERO

$$\Box U_{R} = CF / (PVu-CVu)$$

EXAMPLE

- □CF=100,000 EUROS.
- □CVu=20 EUROS
- □PVu=30 EUROS
- $\Box U_R = 100,000/(30-20) = 10,000 \text{ UNITS}$

VNIVERSITAT (2%)

10 VALÈNCIA (2%)

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Below is another way to calculate the Break-even Point (BP).

The percentage margin of the example is:

Margin = (Sales Price - Variable Cost) / Sales Price = (30 - 20)/ 30 = 0.333

i.e. 33.3 % of the sales price is the margin.

The BP will be:

BP = Fixed costs / Margin in % = 100,000 / 0.333 = 300,000 euros.

What if the pharmacy has many products?

First we need to calculate the weighted margin.

Example.

Suppose a pharmacy sells antibiotics, anti-flu drugs and cough mixtures.

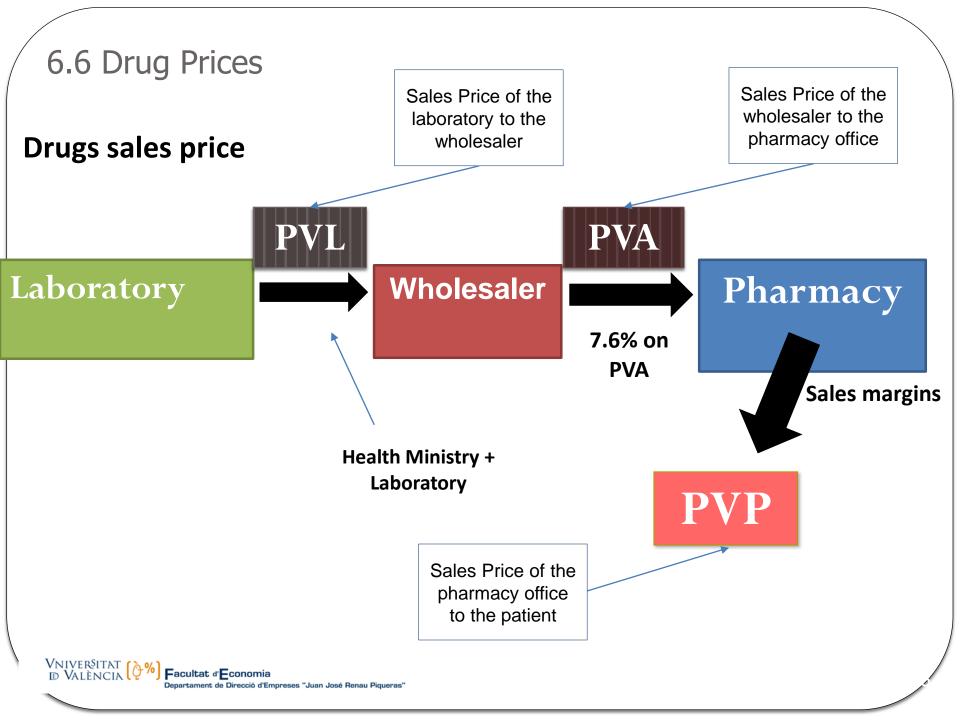
The margins are: 33.3 %; for antibiotics, 25% for anti-flu drugs, and 15% for cough mixtures.

Sales of antibiotics, flu drugs and cough mixtures are 50%, 30% and 20% of overall sales, respectively.

Weighted margin = (33.3% * 0.5) + (25% * 0.3) + (15% * 0.2) = 27.15%

We then proceed as in the previous slide:

BP= Fixed costs / Margin in % = 100,000/ 0.2715 = 368,324 €



6.6 Drug Prices

Sales margins

The sales margin is the difference between the cost and the sales price as a %

☐ DRUGS WITH FIXED MARGIN: Real Decreto Ley 4/2010

Margin in the pharmacy for factory-made human-use drugs:

- •27.9% of PVP without taxes if PVL ≤ 91.63 €.
- •38.37 € per box if 91.63 € <PVL ≤ 200 €.
- •43.37 € per box if 200 € < PVL ≤ 500 €.
- •48.37 € per box if PVL >500 €

For example, a drug with PVL=500€ will have a margin of 8.67%. If PVL = 3,000€, the margin will be 1.6%.

- •10% of PVP w/o taxes for clinically-conditioned drugs.
- **□** PARAPHARMACY:

Free price. The manager of the pharmacy will decide the sales margin.

6.6 Drug Prices

Calculation of margins

A pharmacy will always work with margins on sales

Example:

If PVP = 138.70 € and the margin is 27.90% 27.90 % (0.279) X 138.70 € = 38.70 € of profits for a PVL = 100 €

MARGEN SOBRE VENTAS:

1-(COMPRAS/VENTAS)

PVP= COSTE/(1-MG)

MARGEN	PRECIO DE	PRECIO DE
MARGEN	COMPRA	VENTA
16,67%	100	120
21,26%	100	127
27,90%	100	138,7
35,00%	100	153,85

6.6 Drug Prices

Price building between agents

La cadena del precio de los medicamentos

Supongamos un medicamento, la Aspirina de 500 mg y de 20 comprimidos. Veamos cómo discurre su precio a lo largo de la cadena.

Tenemos un PVL y un PVP fijados de común acuerdo por la administración sanitaria del Estado y por los laboratorios fabricantes. En el año 2008, para el medicamento citado estos precios son de 2,242 € y 3,50 €, respectivamente. Entre uno y otro, la legislación sanitaria establece unos márgenes para los distintos agentes, tal y como hemos comentado, del 27,9 % del PVP para la oficina de farmacia y del 7,6 % del PVA para los mayoristas.

Sabemos que: PVA = PVL + $(0.076 \ 3 \ PVA) \Rightarrow PVA \times (1 - 0.076) = PVL \Rightarrow PVA = PVL / (1 - 0.076)$

Por lo tanto, en el caso de la Aspirina, tendremos:

PVA=
$$2,242 / (1 - 0,076) = 2,242 / 0,924 = 2,426 \in$$

En realidad, los mayoristas o parten del PVA y aplican deducciones, o parten del PVL y acuerdan cargos comerciales o parten de un valor situado entre el PVL y el PVA y aplican cargos y deducciones por diversos conceptos (distribución, volumen de compras, plazo de pago, etc.). Asimismo, los laboratorios establecen acuerdos de compra con los mayoristas en los que además del precio establecido pueden incorporar condiciones referentes a aspectos logísticos o financieros. De las diversas aplicaciones de cargos y deducciones y de los diversos precios de partida se obtienen diversas y variadas fórmulas de relación entre los distintos agentes.

Además de los conceptos comerciales, las transacciones incorporan los impuestos correspondientes: en el caso de la Aspirina podrían ser:

Laboratorio-mayorista:

29

PVL + IVA =
$$2,242 \times (1 + 0,04) = 2,242 \times 1,04 = 2,332$$
 €

Mayorista-oficina de farmacia:

PVA + IVA + RE =
$$2,426 \times (1 + 0,04 + 0,005) = 2,426 \times 1,045 = 2,535 €$$

Laboratorio-oficina de farmacia:

PVL + IVA + RE =
$$2,242 \times (1 + 0,04 + 0,005) = 2,242 \times 1,045 = 2,343 \in$$

ficina de farmacia-consumidor:

PVP + IVA =
$$3,365 \times (1 + 0,04) = 3,365 \times 1,04 = 3,50 \in$$

Lab sells to wholesaler:

PVL + IVA (VAT)

Lab sells to pharmacy:

PVL+IVA+RE

Wholesaler sells to pharmacy:

PVA + IVA + RE

Pharmacy sells to patient:

PVP + IVA

Ownership of Pharmacy

- One owner with a degree in Pharmacy.
- If there is joint ownership (co-ownership):
 - -All owners must have a degree in Pharmacy.
 - -Joint ownership (Comunidad de Bienes, or CB) has no legal entity:

incomes and expenditures are allocated to partners according to the share they have.



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Tax on Economic Activities (Impuesto sobre Actividades Económicas)

- > Professional taxes must be paid because there is an economic activity.
- >The pharmacist is exempted from payment (exemption is based on a person

developing an economic activity).

Personal Tax: Impuesto sobre la renta de las personas físicas (IRPF)

General rule: income will be added to the taxpayer's other sources of income.

The objective estimation rule (módulos) used with other freelancers (autónomos) cannot be applied.

Two tax schemes exist for calculating taxes:

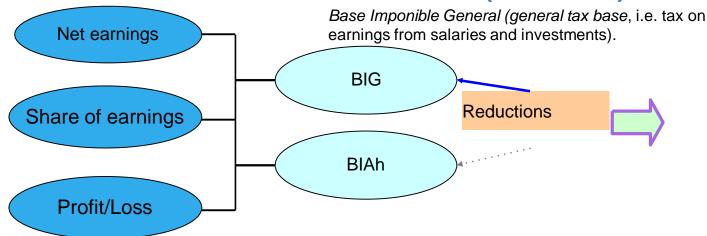
- 3.1. Estimación directa en modalidad simplificada (EDS)
 Simplified Direct Estimation
 - To use this voluntary system, the company's revenues for the previous year must be less than 600,000 euros.
 - It is applicable during the first year of the pharmacy.
 - It is the default method for calculating taxes.

3.2. Estimación directa en modalidad normal (EDN)

Normal Direct Estimate

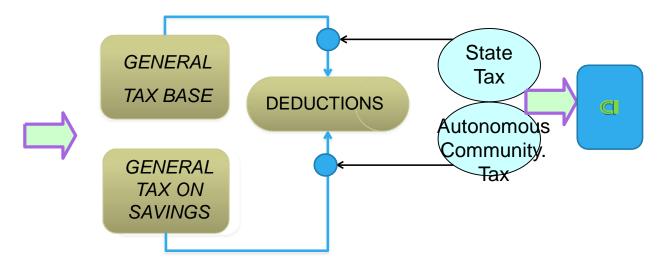
- This is applicable if, during the previous month of December, the taxpayer has opted not to use the EDS.
- This waiver has a three-year effect.
- •The pharmacy must keep books in accordance with the Commercial Code and apply Company Tax Law.

CALCULATION OF PERSONAL TAX (IRPF)

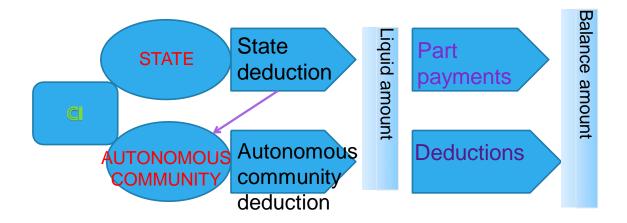


BIAh: Base Imponible del Ahorro (general tax on savings)

CALCULATION OF PERSONAL TAX (IRPF)



CALCULATION OF PERSONAL TAX (IRPF)



Taxes

Value Added Tax (IVA)

VAT is an indirect tax that charges for the end consumption of goods and services. In Spain there are three rates of VAT: general (21%), reduced (10%), and super-reduced (4%).

Companies charge VAT on their sales.

Companies pay VAT on their purchases.

The difference is paid to the Ministry of Finance: VAT is neutral for companies

Value Added Tax (IVA)

4% (super-reduced)	 - Human-use drugs - Medicinal substances - Purpose-made drugs (fórmulas magistrales) - Prostheses, ortheses and implants
10% (reduced)	 - Veterinary drugs. - Complements to physical limitations (glasses) - Nutrition, herbs, phytotherapy. - Diapers (for children and adults)
21% (general)	- Cosmetics Products for skin hygiene - Other products.

Recargo de equivalència, or RE (additional VAT)

Characteristics:

- -Applicable to retailers:
 - who sell goods without having produced them.
 - sales to Social Security and public should be higher than 80% of sales.
- -Relieved from payment of VAT (VAT form 303)
- -Suppliers charge RE plus applicable VAT
 - Suppliers transfer VAT and RE to the Ministry of Finance
 - The pharmacy calculates VAT and RE as expenses, not tax.
 - The pharmacy calculates VAT charged to customers as income.

VAT %	RE %
21%	5.2%
10%	1.4%
4%	0.5%

Exempt from RE:

- Goods and services purchased for the business activity (e.g. computer, scales, etc.).

VALENCIA (From Facultat d'Economia

Supply management: administrative support

Albarán (delivery note)

This document accompanies the delivery of products

It must contain the following information:

- √ Supplier data
- ✓ Customer data
- ✓ Product data
- **✓** Date of shipment.
- **✓** Delivery note number

Optional information includes:

the prices of the products
the VAT and RE for each product
the total amount

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Factura (invoice)

This document proves the sale of the products. It is essential for the company's book-keeping. It is subject to the tax laws.

This document must contain the following information:

- √The word "Invoice" and a corresponding number.
- √ The place and date of issue.
- √ The name, address and VAT code of the buyer.
- √The name, address and VAT code of the seller.
- ✓ A description of the sale and the total amount.
- √ The amount without VAT.
- √The VAT rate(s) applicable.
- √ The RE rate(s) (if applicable).

Invoices to customers

Law 29/2006 on Guarantees and Rational Use of Medicines and Health Products (GURMPS)

The receipt issued to customers by the pharmacy should include:

- the name of the drug,
- the amount paid by the customer, and
- the PVP.

Invoices should be supplied at the customer's request

Payments

PAYMENT METHODS:

- -Cash
- -Bank transfer
- -Bank debit

Payment terms:

- -Payment in advance
- -Cash on delivery
- -Short-term (30-60 days)
- -Long-term (1 year)

PAYMENT AGREEMENT:

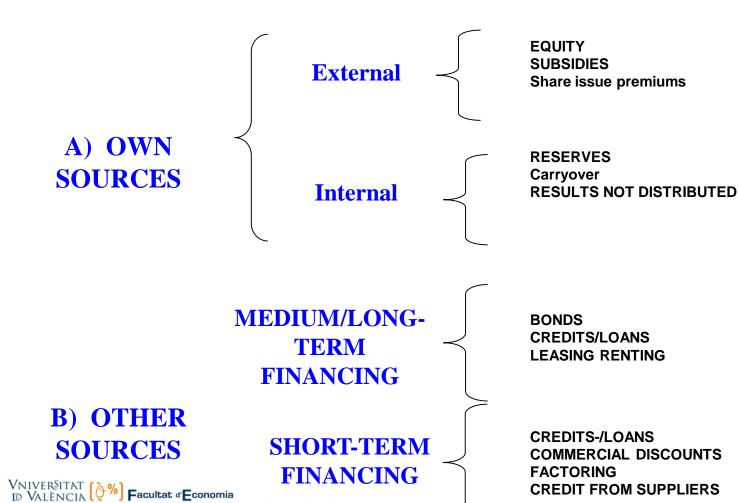
- -Receipt
- -Writing pagado (paid)
- -Bank transactions



A company's finance function consists of obtaining resources at the best possible price and assigning them to the projects that afford the best profitability with the minimum risk. The finance function must also ensure an adequate financial structure.

The finance function must also ensure that the firm can honor its payment obligations in the short and long term without experiencing major strain.

FINANCING SOURCES



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BANK CREDIT

- →The bank deposits money into the customer's bank account. The customer pays interest for the quantity used and lesser interest for the amount not used.
- →The normal term is 6-12 months. Payment of interest is on a quarterly basis. At the end of the term, the full amount of the money made available is returned to the bank. The credit can be renewed.
- \rightarrow It is normally subject to the same commissions and warranties as a loan.
- →A credit policy (póliza de crédito) is an operation by which customers can inject money into their account.

LOAN	CREDIT
The total amount is handed over when the loan is arranged.	The amount used is decided by the customer, with an upper limit.
Interest is paid for the full amount of the loan.	Interest is paid for the money used and unused but at the disposal of customer.
It is usually a long-term operation.	It is usually a short-term operation.
It is used to finance long-term investments (e.g. factories, cars, machinery, etc.).	It is used for the purchase of goods to be sold and for short-term liquidity.

BANK LOAN

This is the most more common source for financing large amounts of money on a long-term basis

Features of a bank loan:

Capital

Interest Rate

Monthly instalment=
Capital +
Interest

Study and Formalization Commission

T.A.E. (Real Interest Rate

Anticipated cancellation commission

Term

Guarnator (Avalista)

Life insurance policies