

# COSTS

Costs: role, functions. Cost typology

Cost size, structure and dynamics

Cost minimization, profitability threshold,

# Costs: role, functions

- The cost of production consists of all the expenses incurred and / or to be incurred, expressed in money, by a company for the production and sale of tangible and intangible goods.
- The cost reflects the unity between the content of the consumption of factors and the monetary expression
- The cost includes all the expenses incurred by the company to support the offer
- The cost can be found in the sale price of the good, being a component part of it

- The microeconomics deals, in particular, with the cost of production which represents the monetary expression of the consumption of the factors of production necessary to achieve a set volume of products / services.
- The production cost, being closely related to the evolution of the production level, is considered in the specialized literature as a function of the physical volume of the production.
- Also, the cost of production is also a determining factor in determining the size of prices or choosing the price policy. The difference between the cost of production (called in some parts of the work and the cost) and the cost is expressed by the fact that the expense ensures the payment of the production factors necessary for the organization to make a commodity, and the cost, as mentioned, is the money expression of consumption factors of production.

# Costs: role, functions

- Microeconomic analyzes are based on taking into account the differences between the explicit cost, the implicit cost and the accounting cost.

**Explicit cost** - the necessary expenses incurred with the purchase of the factors of production outside the company and which the company makes for each production cycle

The **implicit cost** - the inherent costs of production that do not involve payments to third parties, being done on the company's own resources (depreciation, associates work)

**Accounting cost** - includes the explicit cost and depreciation (part of the implicit cost)

# Cost functions

- The function of measuring the expenses necessary to obtain the production
- The research-development function consists in the fact that new technologies and new products appear as an effect of the research expenses.
- The production function refers to the fact that it plays an important role in the realization of constructive design and technology based on innovations and inventions.
- The personnel function involves comparing the costs with the preparation, improvement and motivation at work, on the one hand, with increasing the productivity of the work and raising the quality of the goods, on the other

# Funcțiile costului

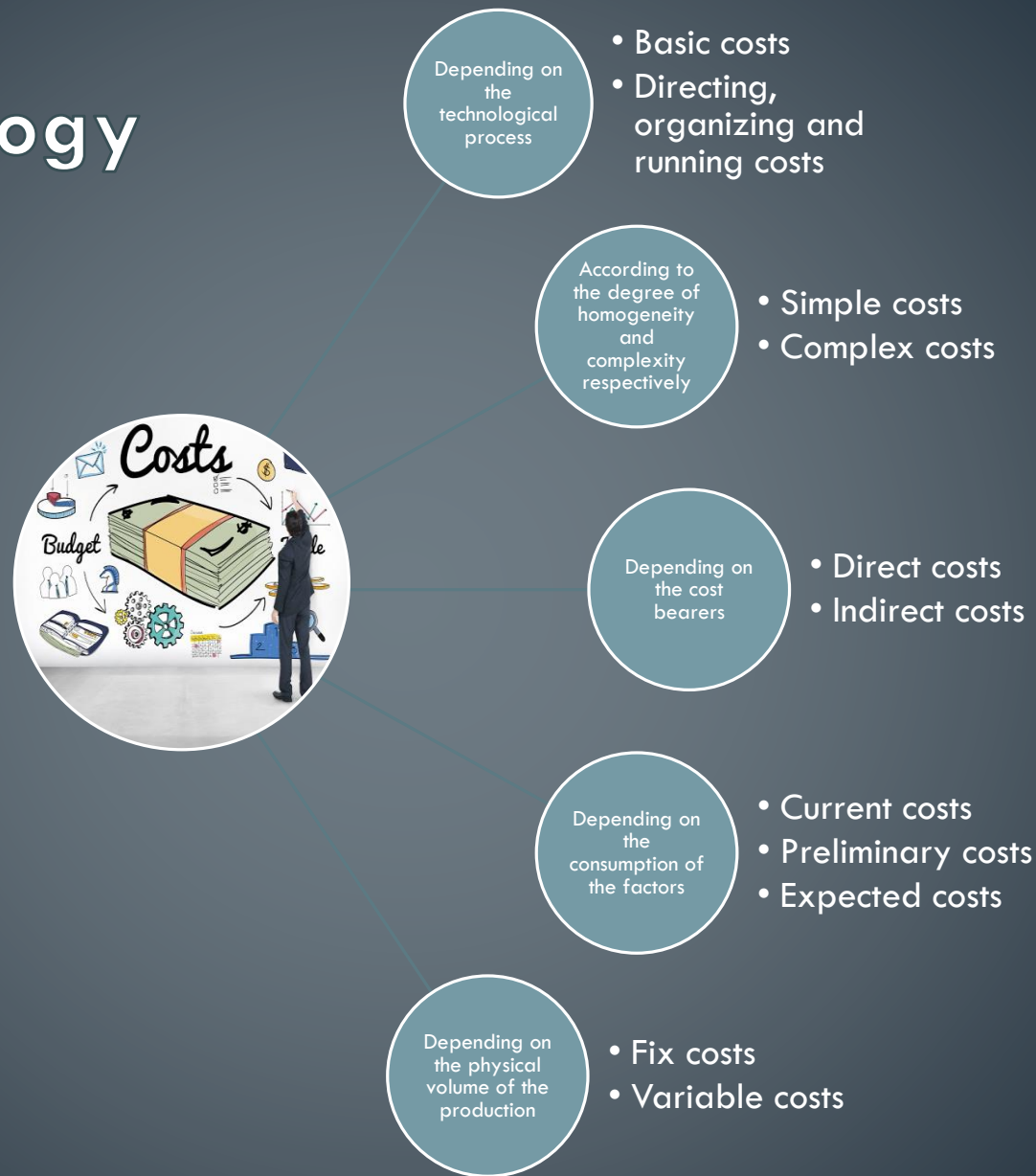
- **Funcția comercială** evidențiază efectul benefic al cheltuielilor făcute cu livrarea la timp a bunurilor și asigurarea piețelor de desfacere.
- **Funcția financiar – contabilă** arată costurile necesare asigurării fondurilor bănești, în mărimea și structura corespunzătoare unei activități rentabile
- **Funcția de optimizare** presupune asigurarea și determinarea costului cel mai mic ce revine unui nivel maxim al producției.
- **Funcția de control și reglare** este cea prin care se evidențiază modul de fundamentare a deciziilor de politică economică prin care se dirijează consumul de resurse



# Cost functions

- The knowledge of the cost allows the entrepreneur to base in such a way the use of the factors of production, in order to obtain a higher profitability, in comparison with his competitors.
- Cost is an extremely useful tool in making decisions aimed at ensuring the level of production performance

# Cost typology





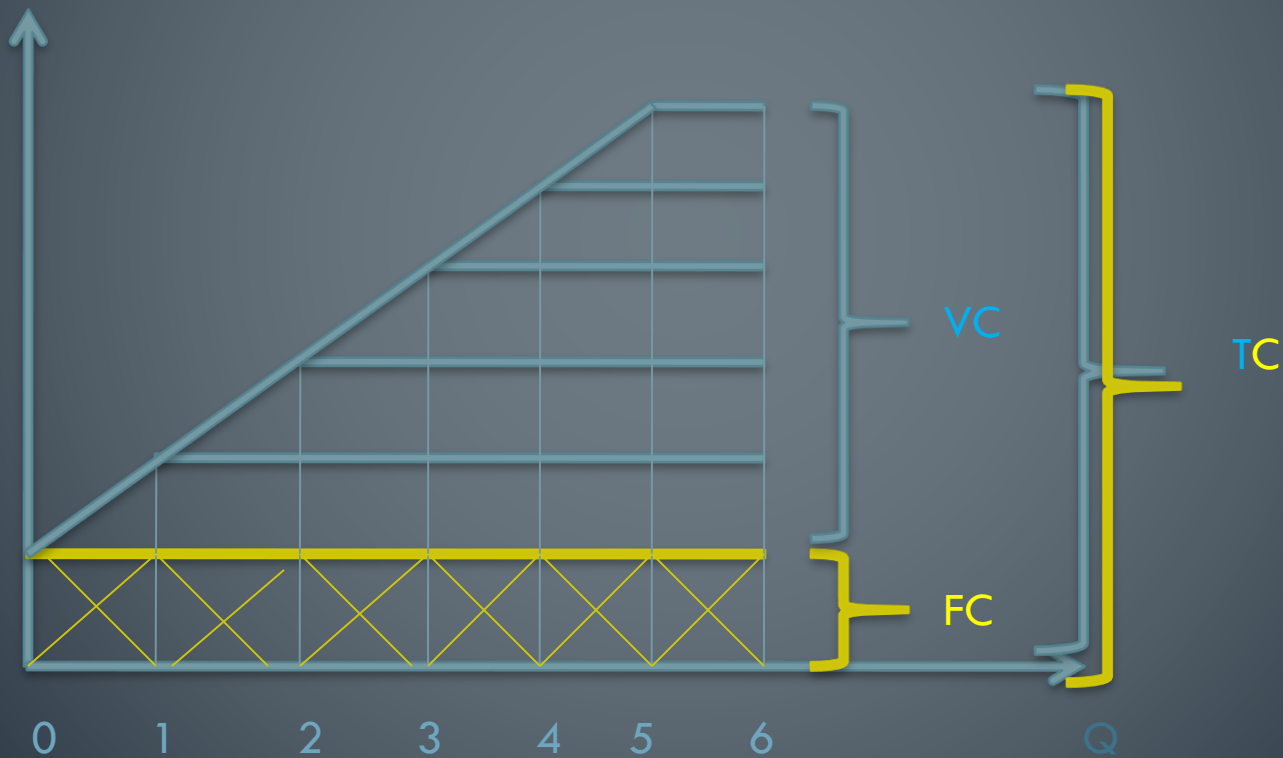
# Cost size, structure and dynamics

- The cost level of production or its size represents the totality of the expenses expressed in money, incurred by a producer - entrepreneur for the production and sale of the goods that are the object of his activity.
- The size of the cost can be calculated per unit of product (unit and average), on a homogeneous mass of production (cost of production), on the production of a company in a certain time interval (year, semester, quarter).

# Cost size, structure and dynamics

- **Fixed cost** - represents that part of the cost that is independent of the volume of production; the fixed cost elements are borne by the company regardless of the level of production
- **Variable cost** - consists of those expenses that vary with the physical volume of the production; these costs are zero at the zero level of production
- **Total cost** - consists of the sum of fixed and variable costs.

# Cost size, structure and dynamics



# Cost size, structure and dynamics

- **Average fixed cost** - is calculated by comparing the fixed cost to the output obtained. It is variable in relation to the quantity produced
- **Average variable cost** - is calculated by comparing the variable cost to the output obtained
- **Total average cost** - represents the sum of the fixed and variable average costs, respectively the ratio between the total cost and the volume of production
- **Marginal cost** - represents the increase of total expenses incurred by obtaining an additional unit of product / service

# Cost size, structure and dynamics

- Costul fix mediu (CFM) -

$$CFM = CF/Q$$

- Costul variabil mediu (CVM) -

$$CVM = CV/Q$$

- Costul total mediu (CTM) -

$$CTM = CT/Q$$

- Costul marginal (Cmg) -

$$Cmg = \Delta CT / Q \Delta$$

unde  $\Delta CT = CT_1 - CT_0$   
 $\Delta Q = Q_1 - Q_0$

- Profitul (Pr) -

$$Pr = CA - CT$$

- Cifra de afaceri (CA)

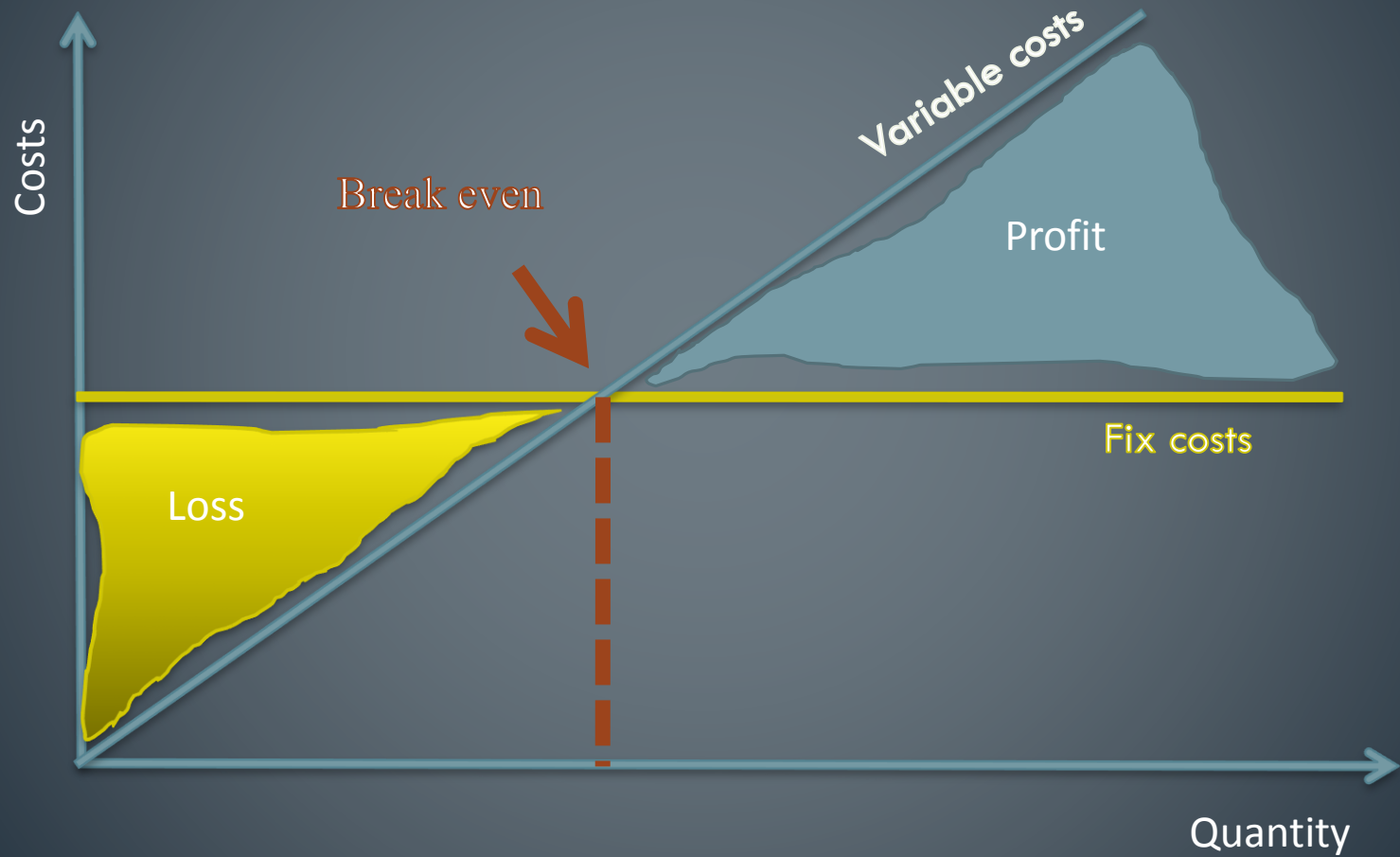
$$CA = Q * P$$

# Cost size, structure and dynamics

- If  $C_{mg} > CTM$  the company can increase production, because CTM is in a downward evolution phase, there are still enough production capacities, and increasing production will allow profit growth
- If  $C_{mg} \geq CTM$  the company has to reduce production, because it has exceeded the level of production capacities, or to find a way to resize the production capacities, otherwise reducing its profit



# Break even point



# Break even point

- Definitely any company aims to maximize profit in this sense the company can act:
- By increasing the quantity of products obtained and sold
- By raising the price
- By reducing the total average cost (CTM) direction of action in which the company has the highest autonomy

# Break even point

- The level of production at which total costs are equal to total revenues is called the profitability threshold. At this point the company has equality between total costs and turnover
- The profitability threshold is that level of production where the following relationships take place:
- $CT = CA^*$                        $Pr = 0^{**}$                        $CTM = P^{***}$

\*costul total = cifra de afaceri (turnover)

\*\*profitul este 0

\*\*\*the total average cost is equal to the price per product

# Exercise 1

In March a company produces a production of 1 000 pcs. from product A with the following costs (expenses):

Raw materials	80.000 lei
Direct salaries	60.000 lei
Depreciation	15.000 lei
Consumables	10.000 lei
Rent	8.000 lei
Indirect salaries	20.000 lei
Heating expenses, lighting	2.000 lei
Fuel, water, energy	25.000 lei

The selling price of product A is 250 lei / piece.

Calculați:      Global costs(CF, CV, CT)

Average costs

The profit made by the company

# Exercise 1 - Solution

- Before calculating the overall costs, it is necessary to divide them into fixed costs (which do not depend on the volume of production, such as depreciation, rent, indirect wages, space heating or lighting) and variable costs (which, in other words, increase or decrease with the physical volume of production, such as raw materials, consumables, fuel, water, energy, direct wages)

$$CF = 15 + 8 + 20 + 2 = 45.000 \text{ Lei}$$

$$C_v = 80 + 60 + 10 + 25 = 175.000 \text{ Lei}$$

$$CT = 45 + 175 = 220.000 \text{ lei}$$

} Global costs

$$CTM = CT/Q = 220.000/1.000 = 220 \text{ lei / buc.}$$

} Average cost or / piece

$$CA = Q * P = 1.000 \text{ buc} * 220 \text{ lei/buc.} = 250.000 \text{ lei}$$

$$Pr = CA - CT = 250.000 \text{ lei} - 220.000 \text{ lei} = 30.000 \text{ lei}$$

sau

$$Pr = Q * (Pre\text{ț} - CTM) = 1.000 * (250 \text{ lei/buc} - 220 \text{ lei/buc})$$

$$Pr = 30.000 \text{ lei}$$

} Company profit



## Exercise 2

SC IKEA Romania Ltd realizes in September a production of 1,000 offices with the following expenses:

 	
Raw materials	80.000
Direct wages	60.000
Asset depreciation	15.000
Auxiliary materials	10.000
Indirect wages	20.000
Marketing	8.000
Heating expenses, lighting	25.000
Bank interest	2.000

The sale price of an office is 250 lei / piece.



Global costs(CF, CV, CT)

Average costs

The profit made by Ikea





## Exercise 2 - Solution

CF	45.000 lei
CV	175.000 lei
CT	220.000 lei
CFM	45 lei/buc
CVM	175 lei/buc
CTM	220 lei/buc
CA	250.000 lei
Pr	30.000 lei



## Exercise 3

Complete the following table regarding the evolution of the production and costs of a company:

Producția	Costuri fixe	Costuri variabile	Costuri totale	Cost total mediu	Cost marginal
Q (buc)	CF (mii lei)	CV (mii lei)	CT (mii lei)	CTM (lei/buc)	C <sub>mg</sub> (lei/buc)
5.000	150	350			-
12.000		840			
15.000		1050			
24.000		1680			
30.000		2100			

# Aplicația 3 - Rezolvare

Completați tabelul următor referitor la evoluția producției și a costurilor unei societăți comerciale:

Producția	Costuri fixe	Costuri variabile	Costuri totale	Cost total mediu	Cost marginal
Q (buc)	CF (mii lei)	CV (mii lei)	CT (mii lei)	CTM (lei/buc)	C <sub>mg</sub> (lei/buc)
5.000	150	350	500	100	-
12.000	150	840	990	82,5	70
15.000	150	1050	1200	80	70
24.000	150	1680	1830	76,25	70
30.000	150	2100	2250	70	70