STU
FCHPT

COSTS AND REVENUES

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Today´s class

1. Profit and loss statement
2. Expenses (costs)
3. Revenue
4. Profit

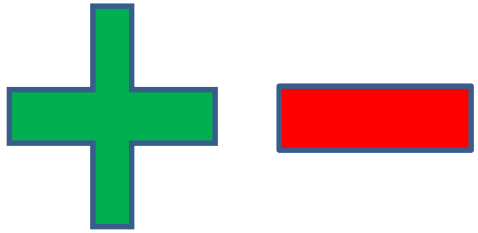
Profit and loss statement

=income statement

-a financial statement that summarizes the revenues, costs and expenses incurred during a specified period, usually a fiscal quarter or year

-provides information about a company's ability or inability to generate profit by increasing revenue, reducing costs or both

-together with the balance sheet and cash-flow statement, the income statement provides an in-depth look at a company's financial performance and position



Profit and loss statement

Profit & Loss Statement

Acme Web Pros Plus

For the month ended June 30, 2017

	JUN 2017	MAY 2017	APR 2017	MAR 2017	FEB 2017	JAN 2017
Income						
Branding & Design	200.00	400.00	-	3,250.00	-	-
Consulting Fees	300.00	-	-	-	-	-
Digital Marketing	500.00	-	-	785.00	1,200.00	1,200.00
Sales	-	-	-	285.00	-	-
Web Design Income	1,100.00	800.00	-	1,950.00	-	-
Total Income	**2,100.00**	**1,200.00**	-	**6,270.00**	**1,200.00**	**1,200.00**
Gross Profit	**2,100.00**	**1,200.00**	-	**6,270.00**	**1,200.00**	**1,200.00**
Operating Expenses						
Dues and Subscription Fees	775.00	75.00	600.00	200.00	300.00	100.00
Other Expense	-	-	1,000.00	-	-	-
Parking fees	-	100.00	-	-	-	-
Postage & Shipping Fees	-	-	23.95	-	-	-
Travel Expenses	870.00	500.00	-	-	-	-
Web Hosting	-	400.00	400.00	40.98	(32.92)	32.92
Total Operating Expenses	**1,645.00**	**1,075.00**	**2,023.95**	**240.98**	**267.08**	**132.92**
Operating Income	**455.00**	**125.00**	**(2,023.95)**	**6,029.02**	**932.92**	**1,067.08**
Net Income	**455.00**	**125.00**	**(2,023.95)**	**6,029.02**	**932.92**	**1,067.08**

Expenses

-they arise in every area of activity of any company
-they can be defined as monetary quantification of the consumption of elementary and dispositive factors of the enterprise that the enterprise spent in order to achieve the stated goal related to the production and sale of corporate outputs and other business activities
-an expense is the value of money that has been used up to produce something or deliver a service, and hence is not available for use anymore
-costs ≠ expenses!!!
-costs: they arise in the moment of payment; it is a decrease of the amount of financial resources of a firm
-expenses: they arise in the moment of consumption

Types of costs

The most important classifications:

1. Based on their nature
   production cost, financial cost vs. extraordinary cost

2. Based on price calculation methods
   direct cost vs. indirect cost

3. Based on production volume
   fixed cost vs. variable cost

Costs based on their nature

1. Production costs
   - Labor and personnel costs
   - Raw materials (+ energy)
   - Consumable manufacturing supplies
   - Services (transportation, repairs...)
   - Taxes and fees (direct vs. indirect)
   - Depreciation
   - Other production costs
2. Financial costs
   - Sold securities, bonds...
   - Negative exchange rate differences
   - Other financial costs
3. Extraordinary costs
   - Damages
4. Income tax payable

Costs based on price calculation

-two different types:

1. Direct: -a company can easily connect them to a specific „cost object“; easy calculation per item
   -raw materials, labor, depreciation...
2. Indirect: -impossible to connect them to a specific „cost object“; must use a specific method to calculate cost per item
   -cleaning supplies, office rental, cell phone bills, indirect labor costs
   =overhead costs

Price calculation example

-example:

1. Direct material A (main input)
2. Direct material B (auxiliary input)
3. Direct material C (packaging)
4. Usable waste
5. Semi-finished products of own production
6. Direct wages
7. Research and development
8. Other direct costs
9. Production overheads

PRODUCTION COSTS

10. Intra-company profit (in-house profit)

IN-HOUSE PRICE

11. Supply overheads
12. Management overheads
13. Sales/marketing overheads

FULL COSTS

14. Other costs
15. Profit

SELLING PRICE

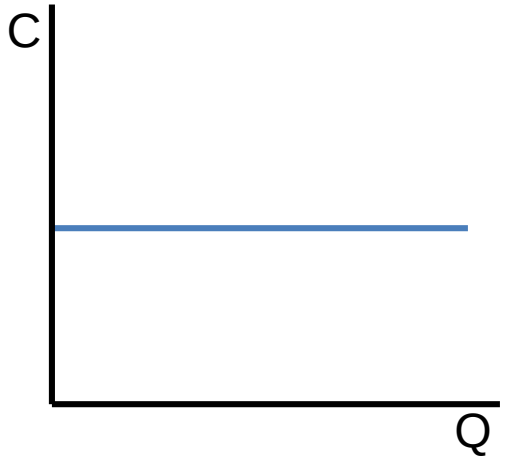
Based on production volume

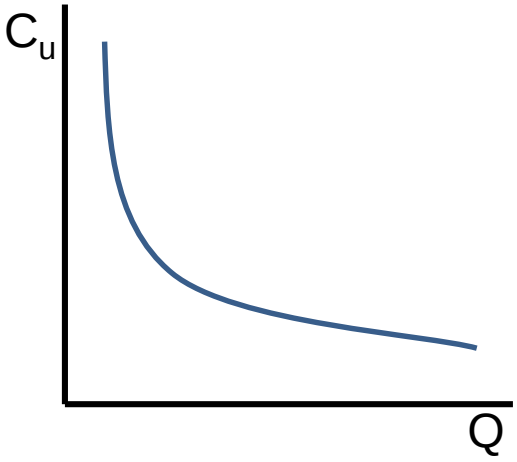
-one of the most important factors determining total costs and unit costs is production volume

1. Fixed costs (TFC)
   - -they do not vary with production (absolute fixed costs) or they change in abrupt steps (relative fixed costs)
   - -wages of technical employees, cost of lighting, cost of heating, depreciation...
2. Variable costs (TVC)
   - -they vary with production volume
   - -direct material, wages of workers in production, oil used in production machines...

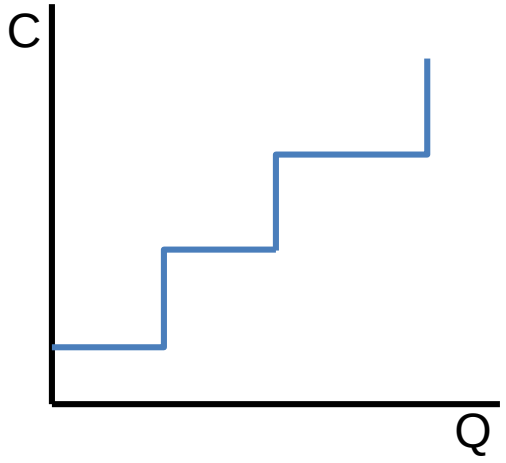
Fixed costs

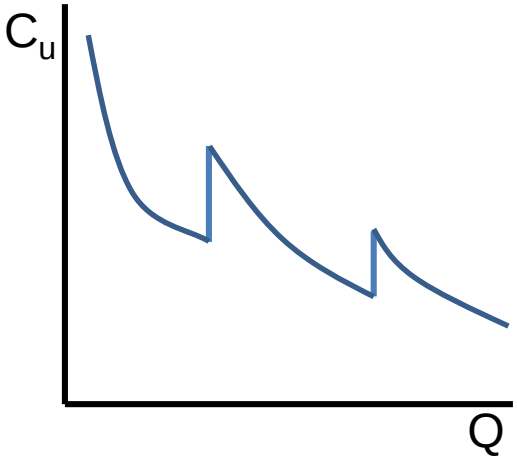
ABSOLUTE





RELATIVE





Variable costs

1. Linear

-if the production increases, the costs increase in the same proportion

-unit costs always remain unchanged

-e.g. basic raw material, energy for production, salary (if paid for each unit produced)...

2. Non-linear

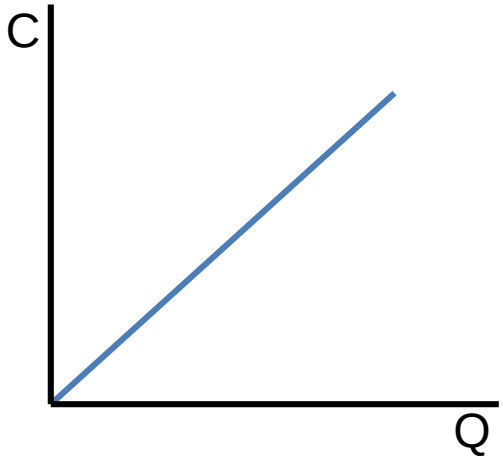
a) Progressive – if the production increases, the costs increase more quickly = unit costs increase (overtime, repairs of old machines...)

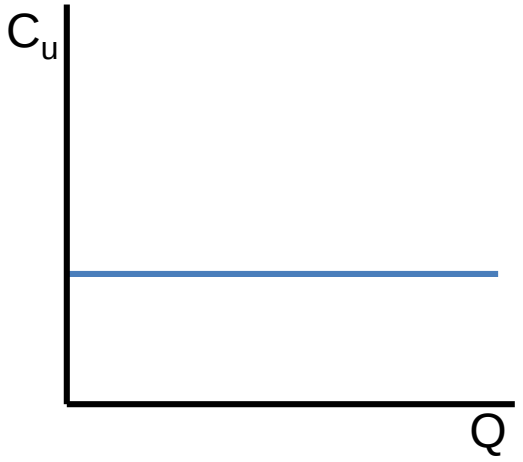
b) Degressive – if the production increases, the costs increase more slowly = unit costs decrease (some auxiliary material, wages of management, repairs of new machines...)

c) Regressive – if the production increases, their total decreases (wages for downtimes, waiting time...)

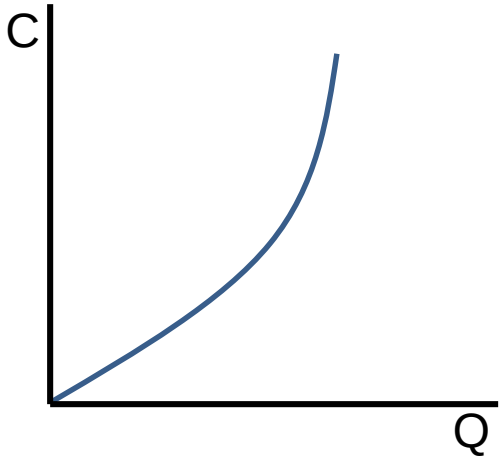
Variable costs

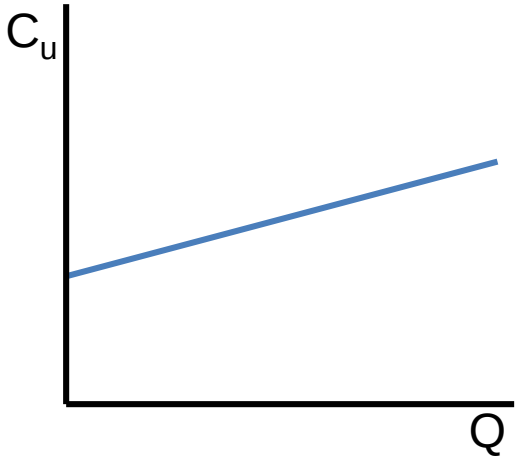
LINEAR





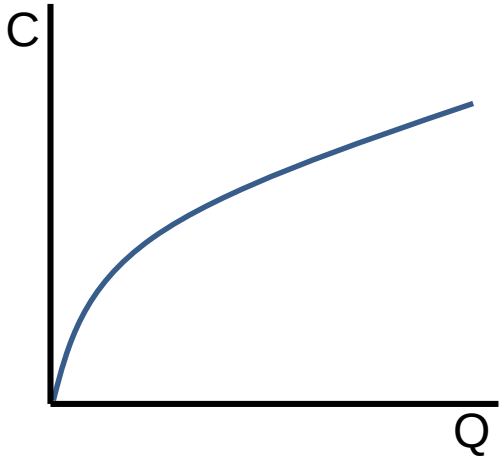
PROGRESSIVE

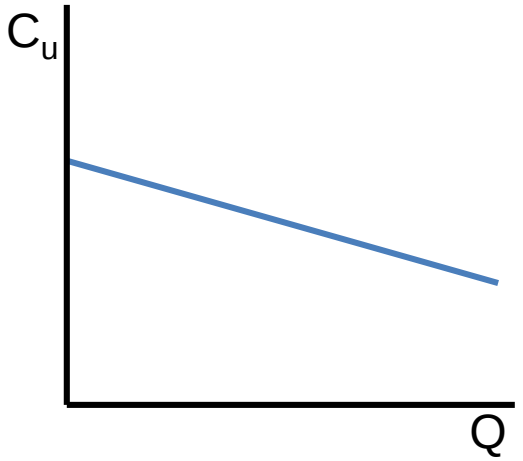




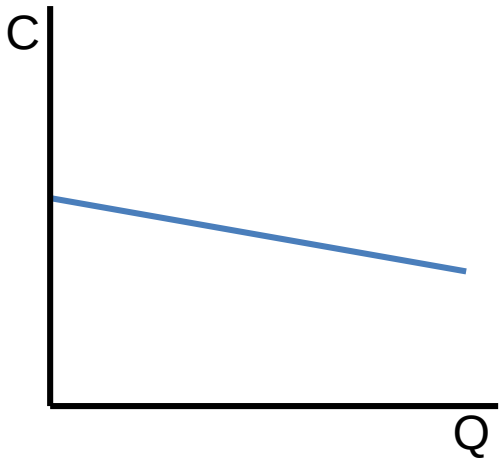
Variable costs

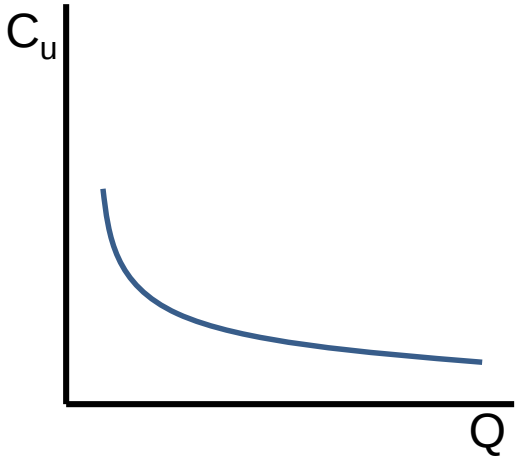
DEGRESSIVE





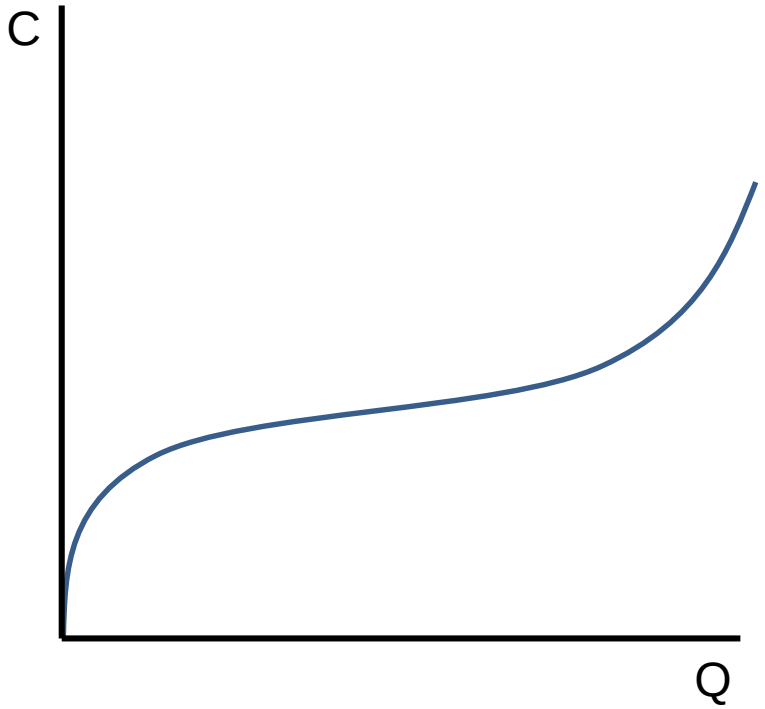
REGRESSIVE





Total costs

-sum of all the costs
-they are always of mixed nature → they include all the cost types we mentioned before



How to calculate costs?

-every single company has to know its costs!
-it is therefore important to be able to calculate costs per unit (it can be 1 piece, 1 kg, 1 m^3 etc.)
-basic calculation methods:

1. Simple calculation method
2. Weighted calculation method
3. Calculation using overheads
4. Quantitative yield method

Simple calculation

-very limited use
-only for companies with a homogeneous production
(= 1 product)

$$C_u = \frac{TC}{Q}$$

C_u - *unit cost*
TC - *total cost*
Q - *number of units*

Weighted calculation

-if we use the same technology to produce multiple products, which differ only in one property (different length, weight...)

-as we use the same technology, the ratio between costs of each product is constant

$$W_i = \frac{Prop_i}{Prop_b} \qquad C_{ub} = \frac{TC}{\sum(Q_i . W_i)} \qquad C_{ui} = C_{ub} . W_i$$

W_i - *weight of the i^{th} product*
$Prop_i$ - *differing property of the i^{th} product*
$Prop_b$ - *differing property of the basic product*
C_{ub} - *unit costs of the basic product*
TC - *total costs*
Q_i - *quantity of the i^{th} product*
C_{ui} - *unit costs of the i^{th} product*

Calculation using overheads

-used in companies which produce at least 2 very different products (having a different production process)
-this method takes into account direct and indirect costs
-direct costs are calculated easily for each product
-indirect costs (overheads) for each product are calculated using a pre-set schedule (e.g. person-months, machine-hours...)
-e.g. if we produce 3 products, we can calculate the overheads for each of them based on machine-hours required to produce them

Quantitative yield method

-usually used in chemical industry

Product	1st stage	2nd stage	3rd stage	4th stage
A	•			
B	•			
C	•			
D	□1	•		
E	□2	•		
F	□3	■1	•	
G	□4	■2	•	
H	□5	■3	•	
I	□6	■4	○1	•
J	□7	■5	○2	•
K	□8	■6	○3	•
Total	100% C_1	100% C_2	100% C_3	100% C_4

Revenue

-the amount of money that a company actually receives during a specific period, including discounts and deductions for returned merchandise

-it is the gross income figure from which costs are subtracted to determine net income

a) revenue from business´s primary activities:

-core operations

-sales of the company´s products/services

b) other revenue

-non-core operations

-e.g. if I rent a part of our building

-in general R = P . Q

Factors increasing revenue

1. Volume / number of products sold and services provided
2. Price: discounts, rebates, bonuses
   -price differentiation
3. Product mix: it determines the shares of fixed costs and variable costs, and hence price
4. Supply and demand: they determine price
   -demand-based pricing
   -competition-based pricing
5. Exchange rate
   -if customer pays in foreign currency: - strengthening of €
   + weakening of €

Economic result

-difference between revenue and costs
-it can be either profit or loss
-three different types:
Gross profit: sales minus the cost of goods sold
Operating profit: gross profit minus operating expenses (sales, management...)
Net profit: income minus all expenses (incl. corporate taxes, interest...)
-profit can be used for taxes, repayment of loans, development or consumption
-loss (in some countries, like in Slovakia) can be deducted from tax base in ¼ shares for four years

Zero-profit point

-for each company it is important to know the volume of production where loss changes to profit = zero-profit point
-it is the point where revenue (determined by price and volume) is the same as costs (divided into fixed and variable costs)

$$P \,.\, Q = TFC + VC_i \,.\, Q + Z \,.\, Q$$

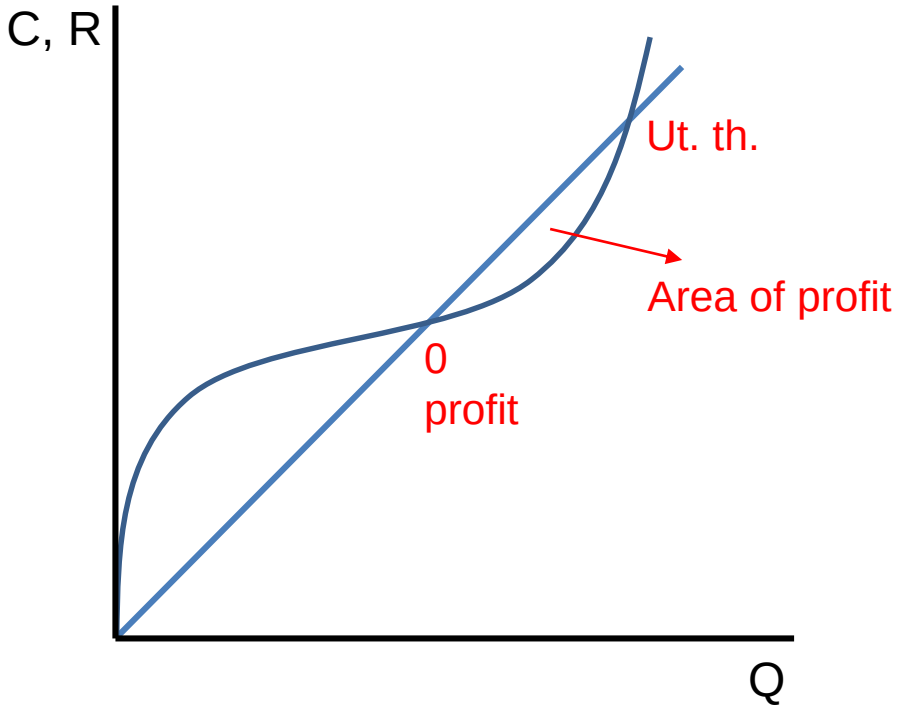
↓ *If Z (profit) = 0*

$$Q = \frac{TFC}{P - VC_i}$$

Utility threshold

-if the total cost curve has S shape in the long run, there must be one more intersection with total revenue = utility threshold

-behind this point the company returns to loss



Indicators of business efficiency

1. Profitability ratios
   - -always profit / X
   - -profit margin (=net income / revenue), return on assets, return on equity, return on investment...
2. Efficiency ratios
   - -always net sales / X
   - -working capital ratio, asset turnover ratio, accounts receivable turnover...
3. Labor productivity
   - -production / labor costs

...

Opportunities to lower costs

1. Resources of lowering costs

↓ material costs
↑ use of production capacity
↑ use of current assets
↑ the quality of inputs and operations
determining optimal production volume
improving production process management

2. Tools of lowering costs

introduction of modern technologies
use of modern technologies
training of staff
↑ labor productivity
innovations
using results of own research & development