

# MUNI ECON

## **COSTs**

Cost analysis; Cost classification; Cost according the volume of providing outputs;  
Production theory

# revenues, COSTS, profit and their relation

- Production – transform of inputs into output
- Inputs – production factors = all of them!
- In accounting = the current assets, depreciation (as a cost), and overhead costs
- Outputs = in accounting = stock of finished good, unfinished goods, etc. (usually also current assets)

# COSTs analysis

- Production = amortization or consumption of production factors. This amortization or consumption is called costs.
- Importance? Stakeholders!
- Goal is to have the lowest sustainable costs possible...?

# Cost as a term

Many points of view:

- Per operation – calculation costs
- Per place of origin and responsibility
- Per typology of costs – cost types
- Per time
- Per production volume – capacity costs

# Calculation costs

- Per operation stage – in all production phases
- Important for price creation + portfolio creation

## **Price calculation**

- + Base price of the product
- Discounts to customers
- Volume
- Season
- Other
- = **Price after changes**
- Costs
- = **Profit/Loss**

# General calculation formula

+ Direct material  
+ Direct work  
+ Other direct costs  
**= Total manufacturing costs**  
+ Overhead costs – supply  
+ Overhead costs – management  
**= Operation costs**  
+ Overhead costs – sales  
**= Total operation costs**  
+ (Profit)  
**= (Sale price)**

# Unit vs. overhead costs

- unit costs (prime costs / per-unit costs)
  - costs that are directly caused (induced) by a unit of any kind of business output
- overhead (overheads)
  - supplement to unit costs
  - in particular the costs of operation, maintenance, management

# Direct vs. indirect costs

- direct costs

- directly attributable to a specific type of performance

- always unit costs

- overheads associated with the type of performance (e.g. single-purpose mould, machine, etc.)

- indirect costs

- cannot be directly attributed to product types
  - different calculation methods are used for the assignment



# Variable vs. fixed costs

## – variable costs

- increase in line with the growth in activity
- what are we assessing variability for?

usually the total output

number of units sold, or units of final production produced

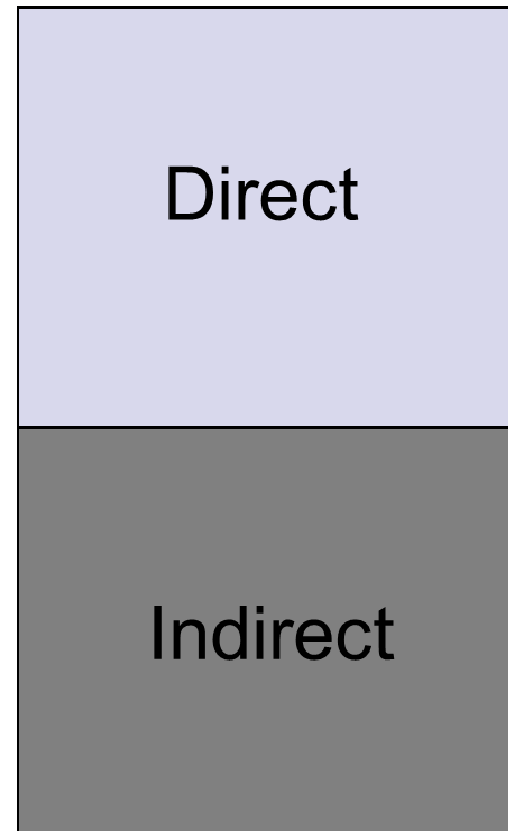
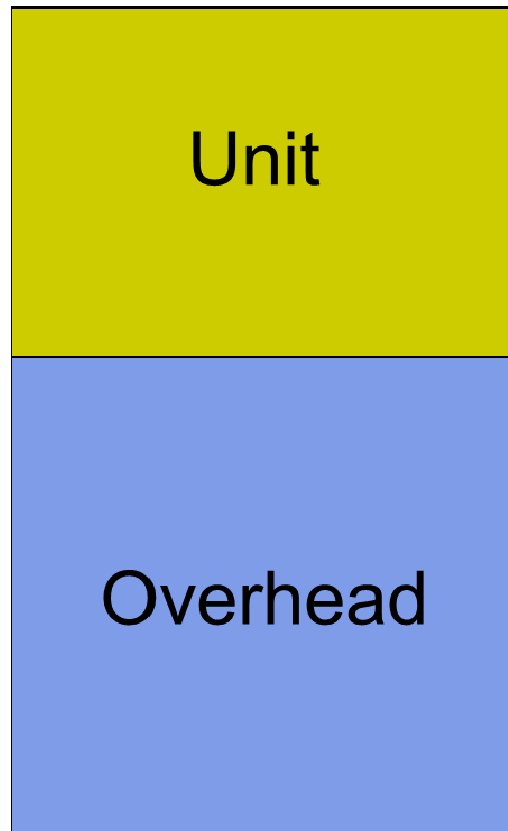
can be assessed e.g. also in relation to the output of the centre

(e.g. hours of repairs carried out by the Repair Service Centre)

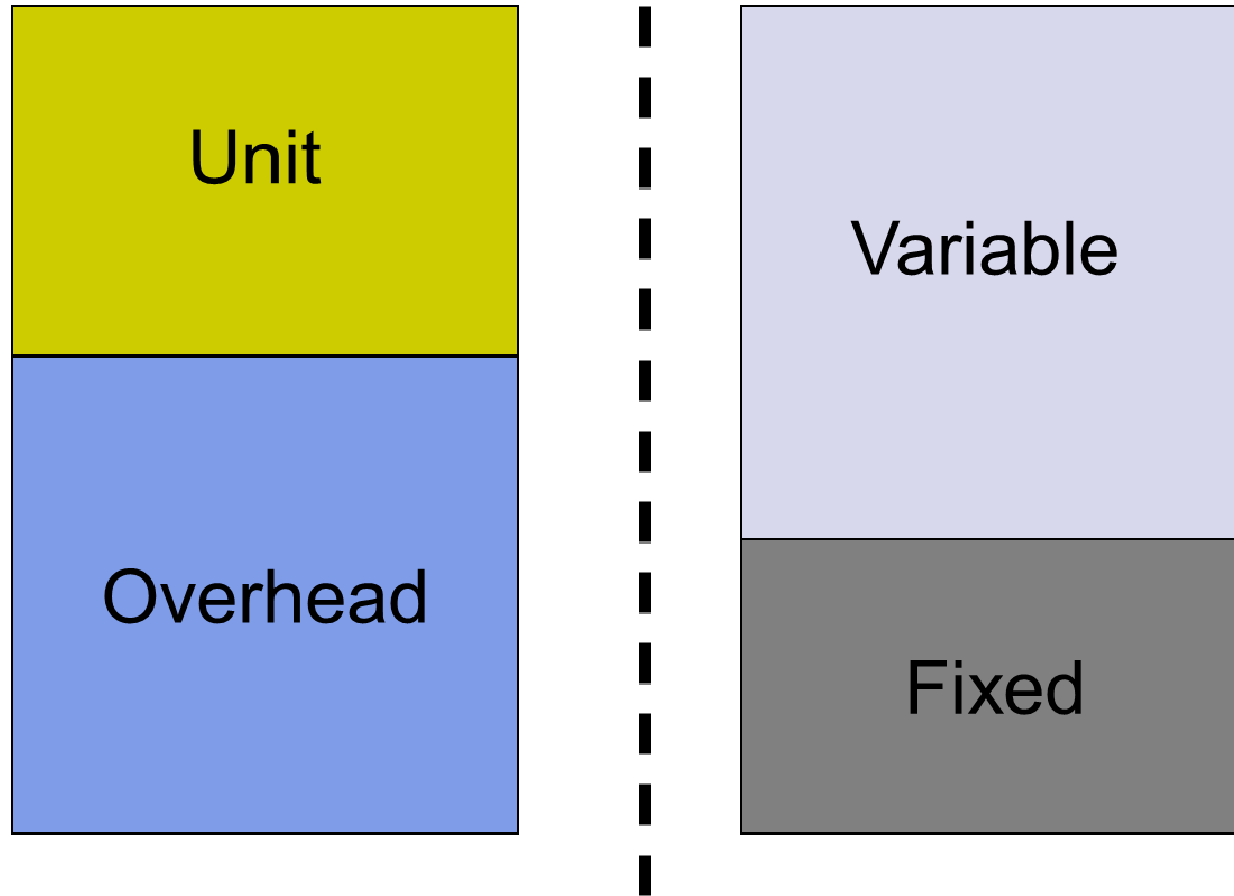
## – fixed costs

- within a certain range of production unchanged, then a change by a jump

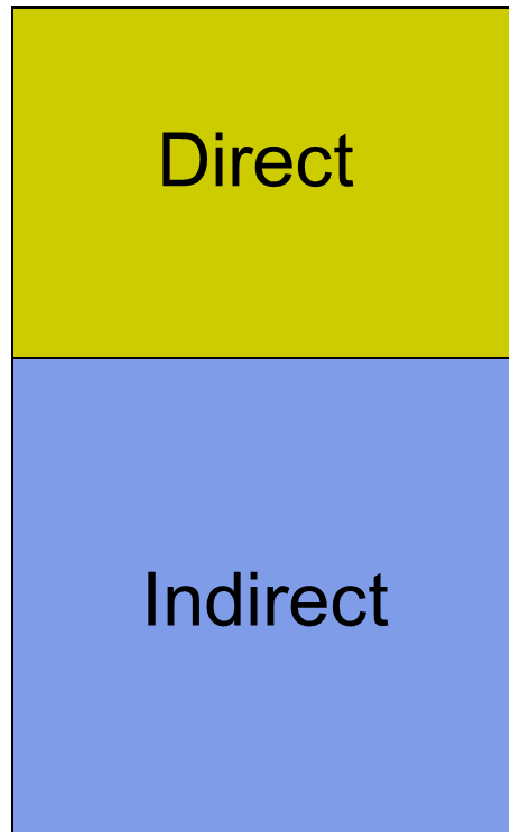
# Unit vs. direct



# Unit vs. variable



# Direct vs. variable



# Cost as a term

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# Place of origin and responsibility

- Cost center
- Economic structure of the company
- Importance? – further lectures and courses – calculations, controlling

# Cost center

- Separated, independent technologically closed cycle
- Independency and responsibility of the „center“ workers for operations, production and revenues/costs
- Mapping of real costs of operations – availability of info for calculations
- Local perspective – should be closed quarters

# Cost as a term

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# Typology of costs – cost types

- From accounting – Czech standards.
- (see papers!) - Sample chart of accounts
- Czech standards vs. IFRS vs. US GAAP

# IFRS – International Financial Reporting Standards

- Transfer of the national economies to the IFRS
- Doing IFRS you can MEAT one problem (US GAAP)



# IFRS adoption around globe

- <https://www.ifrs.org/use-around-the-world/use-of-ifrs-standards-by-jurisdiction/#use-of-ifrs-accounting-standards-by-jurisdiction>

# Generally Accepted Accounting Principles – US GAAP

- Civil law vs. common law
- adopted by the U.S. Securities and Exchange Commission (SEC)
- Historical cost principle
- Financial Accounting Standards Board (FASB)

# Cost as a term

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- **Per time**
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# Time centric

- Elementary distribution
- Theoretical economists – national economies theory
  
- Long term – over 1 year
- Short term – under 1 year

# Dispute

- Economic theory vs. business economics theory
- Economic theorist says – in short term there are variable and fixed costs. In long run, there are only variable costs.
- Business economist says – there are variable and also fixed cost in both long and short run.

# Microeconomics

Volume of production	Total costs	Total fixed costs	Average fixed costs	Variable costs	Average variable costs	Average total costs	Increment in the volume	Increment of total costs	Marginal costs
Q	TC	TFC	AFC	VC	AVC	ATC	$\Delta Q$	$\Delta TC$	MC
0	200	200	-	-	0	-	-	-	-
1	208	200	200	8	8	208	1	8	8
2	216	200	100	16	8	104	1	8	8
3	224	200	67	24	8	74,7	1	8	8
10	275	200	20	75	7,5	27,5	7	51	7,3
15	314	200	13	114	7,6	20,9	5	39	7,8
18	340	200	11	140	7,8	18,9	3	26	8,7



# Microeconomics

- Point of ceasing/stopping production
- LR:  $P \geq AC$
- SR:  $P \geq AVC$

# Cost as a term

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# Volume variability

- Costs distributed by the linking to the volume produced.
- Costs connected to the volume – variable costs
- Costs independent of volume – fixed costs (not always truth)

# Variable vs. fixed costs

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# General formula for costs

–  $TC = TFC + Q * AVC$

# REVENUES, costs, profit and their relation

- Revenues are simple and from microeconomics:

$$P * Q$$

- In the accounting (Sample chart of accounts!)
- usually from the sale of goods and services to customers.
- Revenue is also referred to as sales or turnover. (in CZ ☹ )

# REVENUES

- Goal is to have the highest sustainable revenues possible...?
- What about taxes?

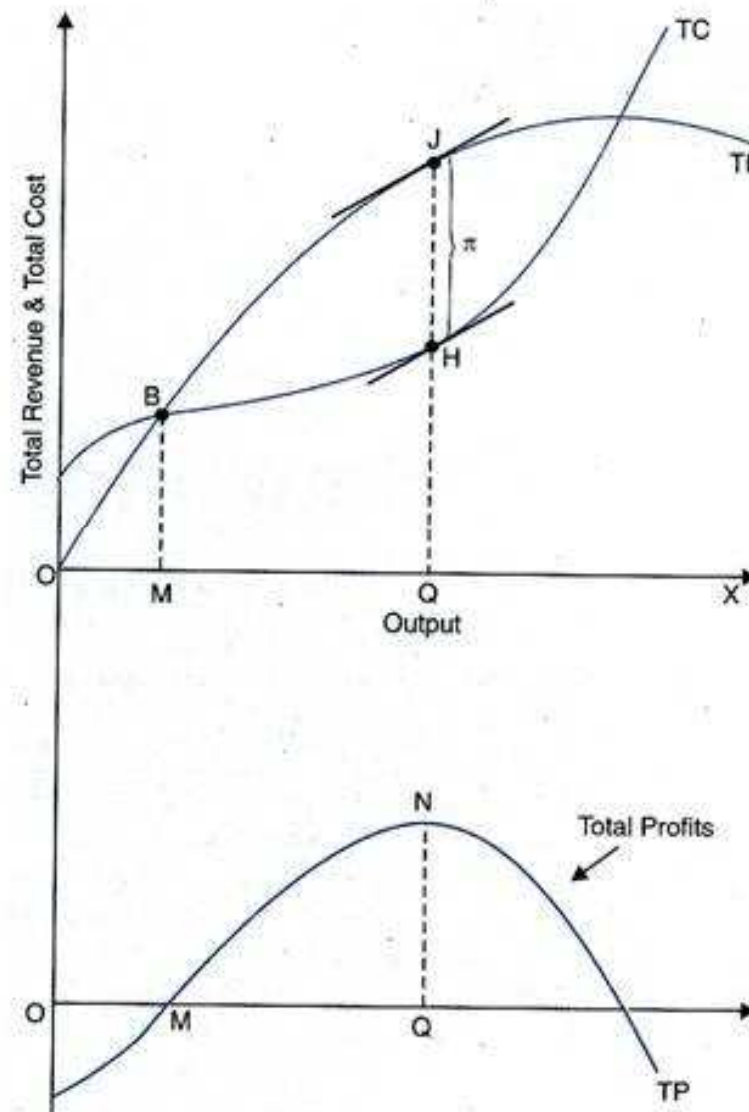


Fig. 2.1. Profit-Maximising Model of the Firm

# Profit 😊

- Revenues – costs = profit.
- This one is subject to taxation.
- Top goal is to have the highest sustainable goal possible...?



# Rehearsal

- Tax rate for the natural person?
- Tax rate for the law entity?
- EBIT vs. EAT
- Usage?

# EBIT or EAT?

– ROA = E??/? Assets

– ROE = E??/? Equity

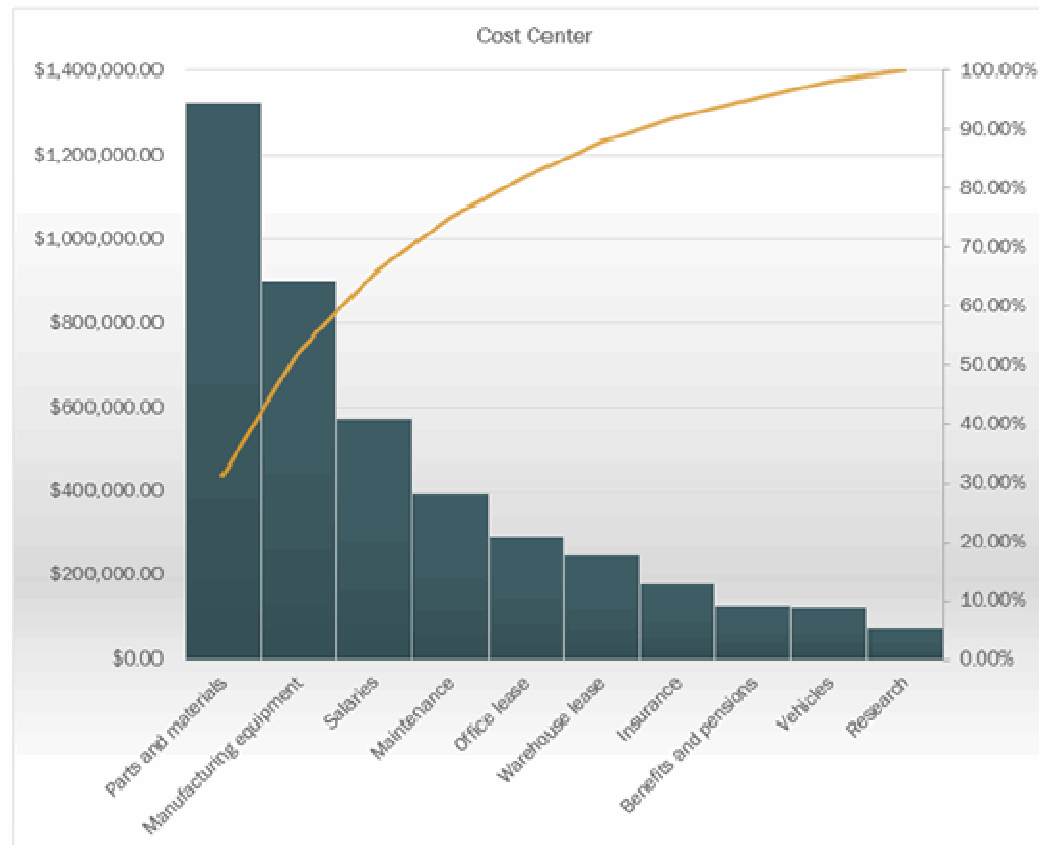
– ROS = E??/? Sales

# OUT OF ABEC

- CBA – Cost benefit analysis
- Based on predictions of future cash flows
- Takes account of time value of money
- Requires all costs and benefits to be given a monetary value
- ABC – Power graph
  
- ABC/M – Activity based costing/management

# ABC – Power graph

COST ANALYSIS - PARETO



# Thank you