



INTRODUCTION TO MACROECONOMICS

Overview of Lecture 1

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- ❑ Course outline and requirements
 - ❑ syllabus
- ❑ Introduction to macroeconomics
 - ❑ macro vs. micro
 - ❑ scarcity and opportunity costs
 - ❑ basic decisions
 - ❑ mechanisms of choice
 - ❑ theory vs. reality

How the economy works?

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Titles from news:

- Estimated growth of real GDP in the year 2010 will be 1.4%. (ČNB, published 4/2/2010)
- Revival of investment into real estate in Europe, the improvement will affect also Czech Republic. (HN, 7/2/2010)
- A broad U.S. push to ease credit for small businesses. (NY Times, 5/2/2010)

What does it mean?

What are the implications?

Are the policy decisions right?

How the economy works?

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- Link between **individual decisions** and behavior, and **aggregate outcomes**:
 - ▣ Ex.1: driving the car to work => congestions
 - ▣ Ex.2: car purchase => GDP of economy
- **Policy** that affects individual decisions has implication on aggregate outcomes
 - ▣ Ex.3: “scrap-money” => car purchase => GDP

How the economy works?

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Macroeconomics

- The study of aggregate economic behavior, of the economy as whole

Issues:

- Unemployment
- Inflation targeting
- Economic growth

Ex.: economy as a complex organism

Microeconomics

- The study of individual behavior in the economy, of the components of the larger economy

Issues:

- Optimization
- Expectations
- Savings, consumption

Core issues: Scarcity

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- **Scarcity** = there are not enough resources to cover all desires (all needs?)

- Limited factors of production:
 - **Labor**: quantity and quality (skills and abilities)
 - **Capital**: final goods produced for use in further production
 - *Q: What is the capital used in this classroom?*
 - **Land**: ground + natural resources
 - **Entrepreneurship**: how to combine previous factors

Core issues: Opportunity costs

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- Limited resources imply **trade-off** = alternative ways of using scarce labor, land and capital resources
- Need to make a **choice**!
- Consider all relevant **opportunity costs** = most desired goods/services that we forego to obtain something else

Q: What are opportunity costs of this lecture?

Q: What is difference between direct and opportunity costs? (case study)

Economics: the study of how best to allocate scarce resources among competing uses

Production possibilities

Simplified example: trucks vs. tanks

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□ Assumptions:

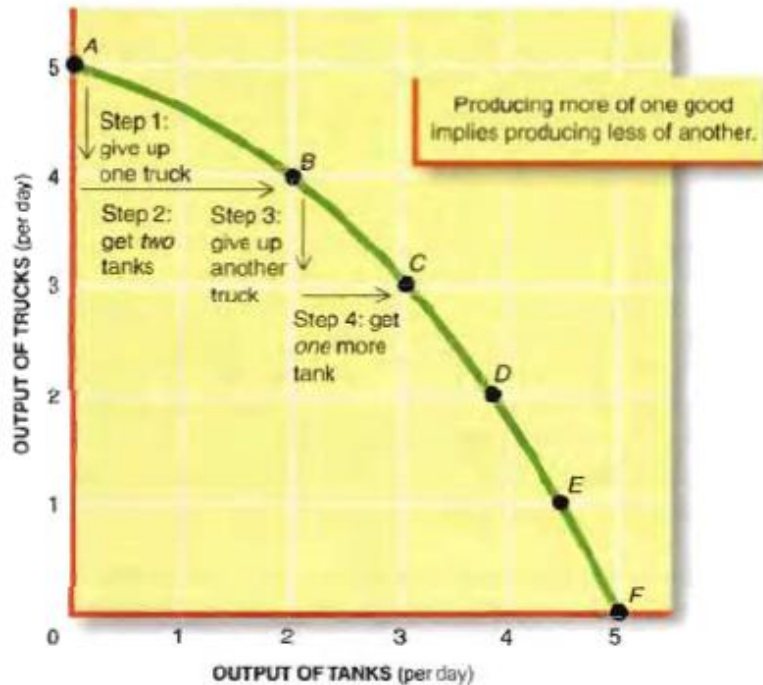
	Labor input		Output	
	Trucks	Tanks	Trucks	Tanks
A	10	0	5	0
B	8	2	4	2
C	6	4	3	3
D	4	6	2	3.8
E	2	8	1	4.5
F	0	10	0	5

- 10 available workers, skilled in truck making
- Truck production process: 2 workers = 1 truck
 - Constant marginal product
- Tank production process: in Table
 - Decreasing marginal product

Production possibilities

Simplified example: trucks vs. tanks

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- Production possibility curve (PPC) = output combinations that could be produced in given time with available resources and technology

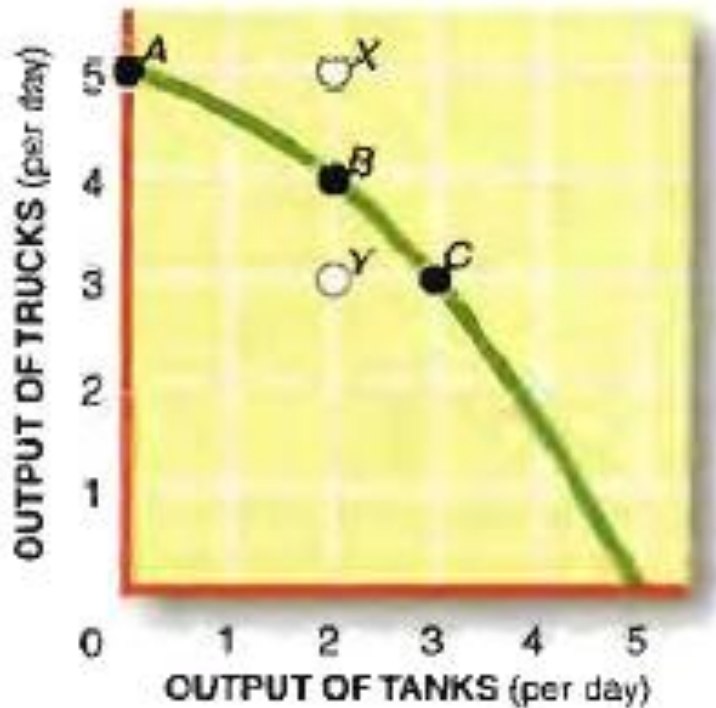
Graphic summary of:

- Scarcity (limits)
- Opportunity costs:
 - ▣ Ex. US in 1944 (40% military spending => rationing)
 - ▣ Increasing opportunity costs (e.g. truck assembly may require less capital than tank assembly)

Production possibilities

Simplified example: trucks vs. tanks

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□ Inefficient production:

Actual output is lower than potential output (point Y)

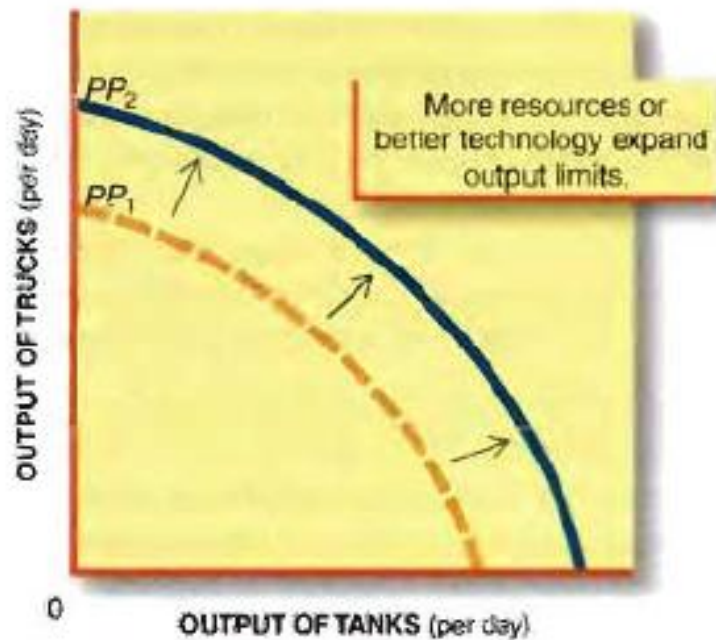
Reasons:

- Unemployment (labor)
- Low investments:
 - Education
 - Technology

Production possibilities

Simplified example: trucks vs. tanks

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□ Economic growth:

Expansion of production possibilities, due to

- Labor: population growth, immigration, education
- Capital: new technologies

Basic decisions

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- **What** to produce?
 - ▣ PPC does not tell us what mixture of output is best
- **How** to produce it?
 - ▣ Use of different technology
 - ▣ Ethical issues – externalities, child labor, resource depletion
- **For** whom to produce? (distribution)
 - ▣ Distribution of output / income

Basic decisions

Market mechanism of choice

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- **Adam Smith** (1776) – Wealth of Nations
 - ▣ “Invisible hand” of market
- Higher demand => profit opportunity
=> higher production of given good
 - ▣ **What:** based on preferences and demand
 - ▣ **How:** cost-minimizing method
 - ▣ **For whom:** highest bidder (values the most)
- **“Laissez faire” economy** – no intervention by government in the market



Basic decisions

Market mechanism of choice - CRITIQUE

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- **Karl Marx (1776) – Das Kapital**
 - ▣ Concentration of power and wealth in hands of few
 - ▣ Government /state should own production factors

- **John Maynard Keynes (1936)**
 - ▣ Market is efficient BUT:
 - ▣ Herded behavior of agents:
 - “Animal spirits” on financial market
 - ▣ Active role of government



Basic decisions

Mechanism of choice - reality

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- **Index of economic freedom** = measure of market reliance

Greatest Economic Freedom		Least Economic Freedom	
Hong Kong		North Korea	
Singapore		Cuba	
Australia		Libya	
USA		Zimbabwe	
New Zealand		Myanmar	

Heritage Foundation, 2007

- *Q: How would you rank the Czech Republic, and why?*
- **Mixed economy** = economy that uses both market signals and government directives to allocate goods and services

Basic decisions

Mechanism of choice - failure

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Market failure

- Imperfection that prevents optimal outcomes

Examples:

- Externalities: pollution
- Irrationality of people

Government failure

- Intervention that fails to improve economic outcomes

Examples:

- Central planning
- Distortionary taxation => affects decision to work and save

Theory vs. reality

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- Use of **models** – simplified theories, show key relationships among economic variables
 - ▣ as good as their assumptions (think critically!)
 - ▣ **Ceteris paribus** condition – other conditions unchanged – e.g. reaction to price change
- Social science – interaction with politics
- Imperfect knowledge
 - ▣ No perfect forecast
 - ▣ No perfect understanding – e.g. Great Depression

Computational problem 1:

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Suppose either computers or TVs can be assembled with following labor inputs

Units	1	2	3	4	5	6	7	8	9	10
Labor	3	7	12	18	25	33	42	54	70	90
Δ		4	5	6	7	8	9	12	16	20

- Draw the PPC for an economy with 54 unit of labor.
- What is the opportunity cost of the eight computer?
- Suppose immigration brings in 36 more workers. Redraw PPC.
- Suppose increase of workforce productivity by 20%. Redraw PPC.

Computational problem 2:

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Suppose this is the relationship between study time and grades, and you have only 20 hours per week

Hours	0	2	6	12	20
Grade avg.	0	1.0	2.0	3.0	4.0

- Draw the PPC with respect to alternative uses of your time. .
- What is the cost (in fun time) of raising GPA from 2 to 3 ?
- What is the opportunity cost of raising GPA from 3 to 4..
- Why does the opportunity cost change?.