

ECONOMICS 2

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Course Material Developed by Department of Economics,
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Week 1

Why should we learn macroeconomics?

Chapters 1, 2

The course

- The course is based on the textbook **N. Gregory Mankiw: Macroeconomics**

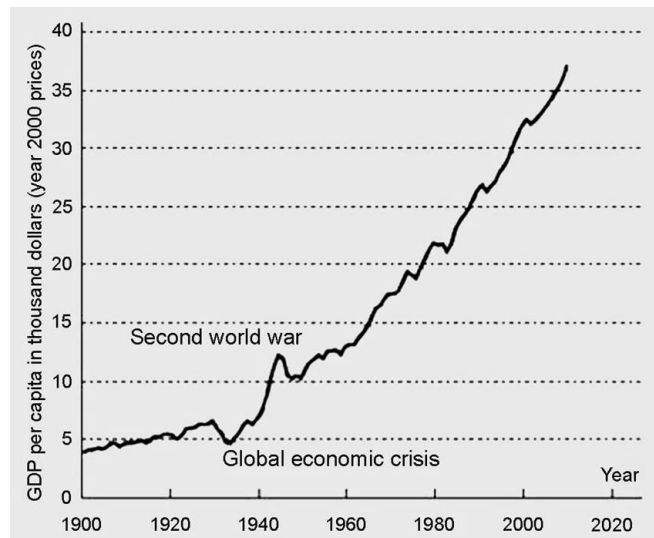
Outline

- What are the main topics of macroeconomics?
- What are the main tools of macroeconomics?
- What are the basic concepts in macroeconomics?

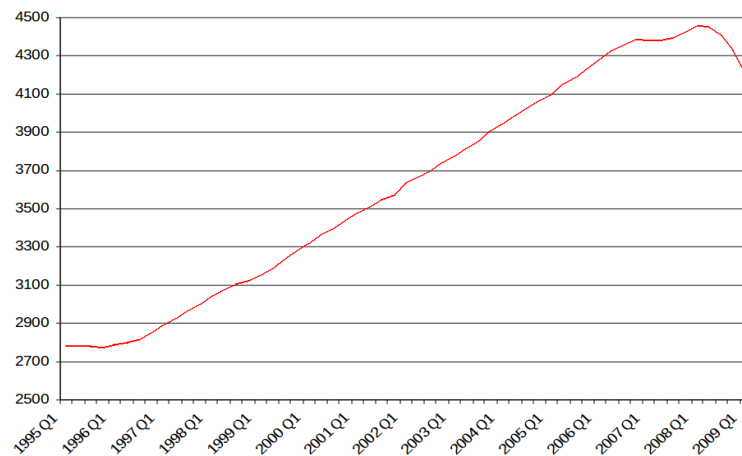
Macroeconomic questions

- Why are the people rich in the U.S., and poor in India?
- Why are there crises? What can governments do to avoid the crises?
Can they do anything?
- Why is there unemployment? Why do prices go up all the time?

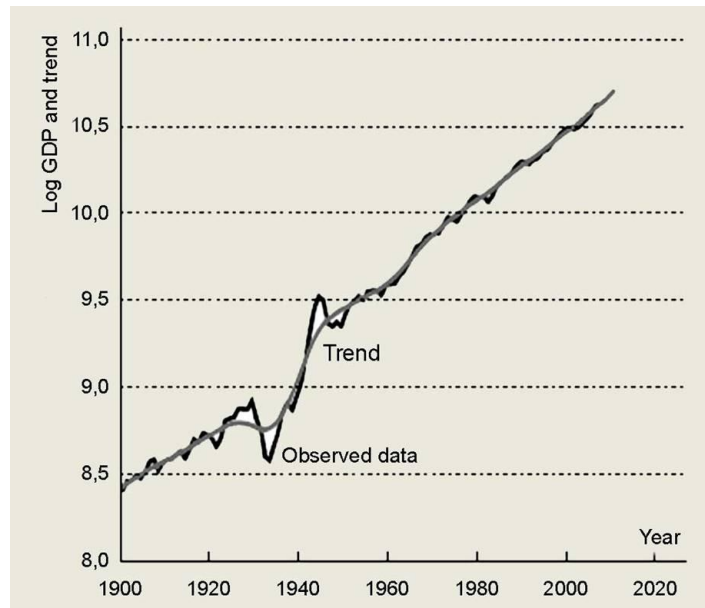
U.S. GDP/capital, based on prices of 2000



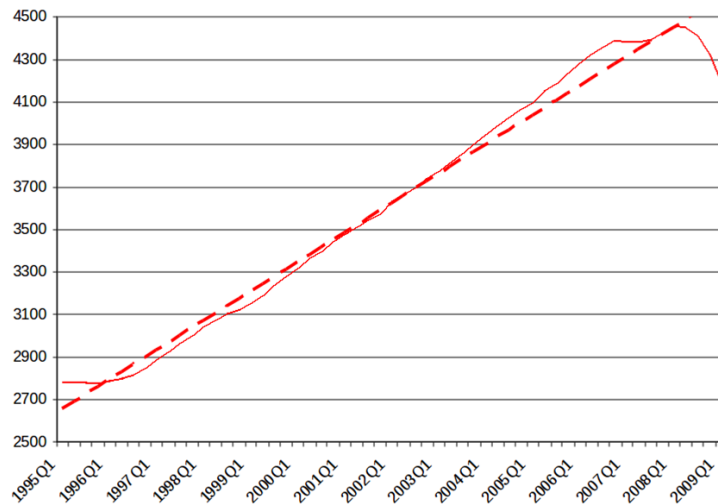
Hungarian GDP in bn. HUF, using prices of 2000



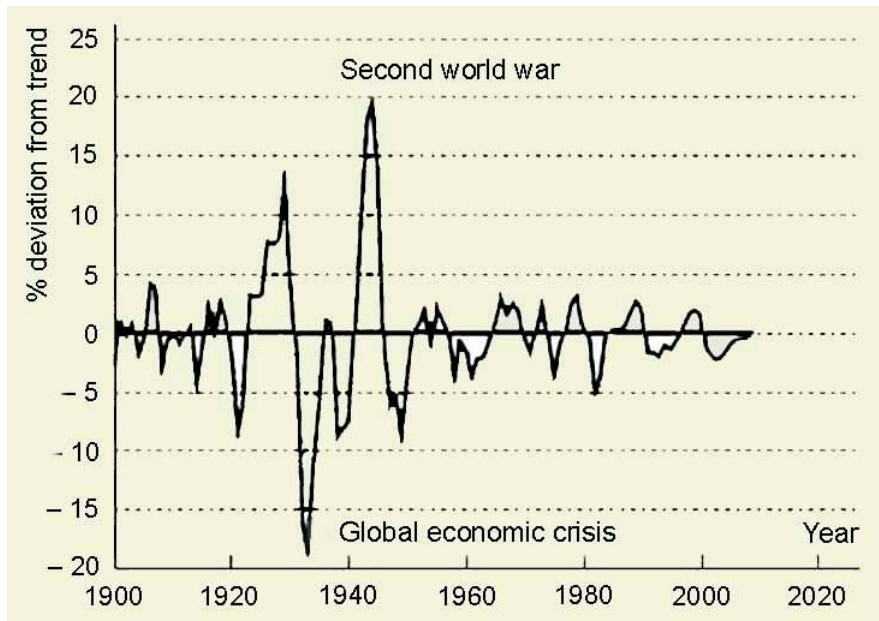
U.S. GDP/capital, prices of 2000



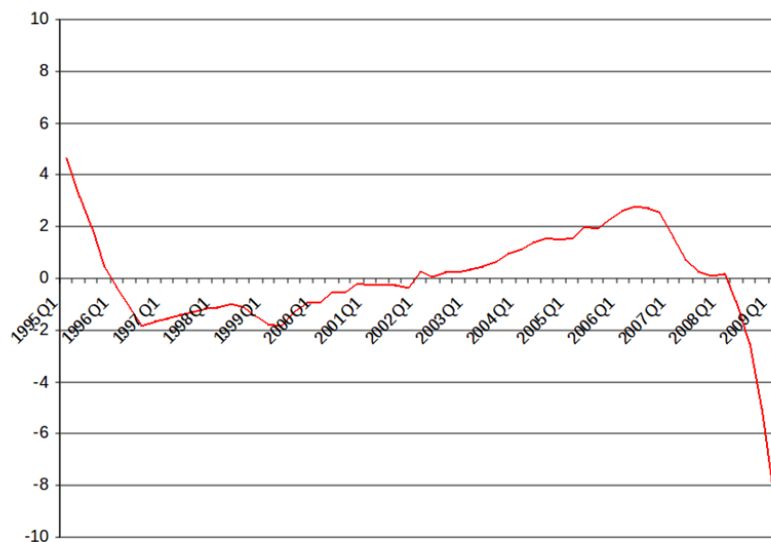
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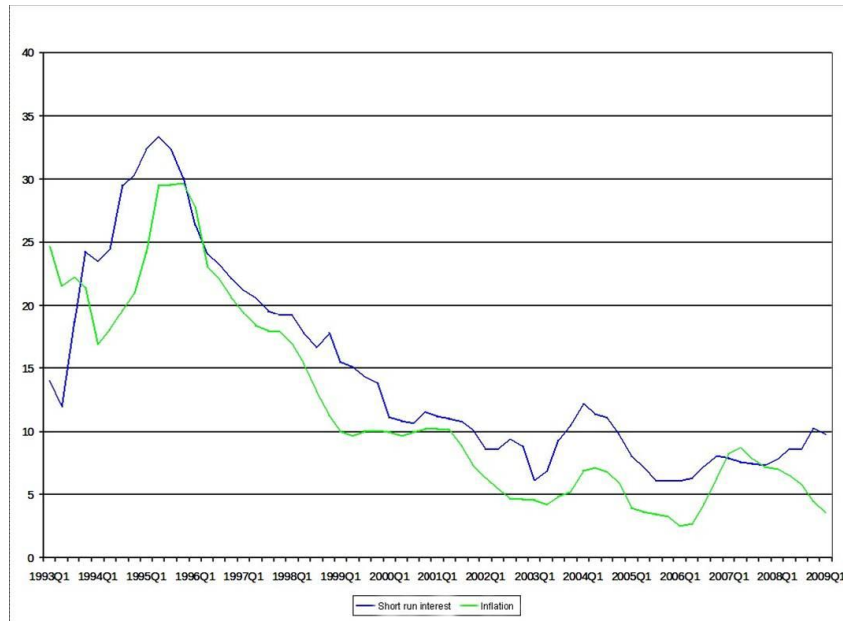
% deviation from trend, U.S.



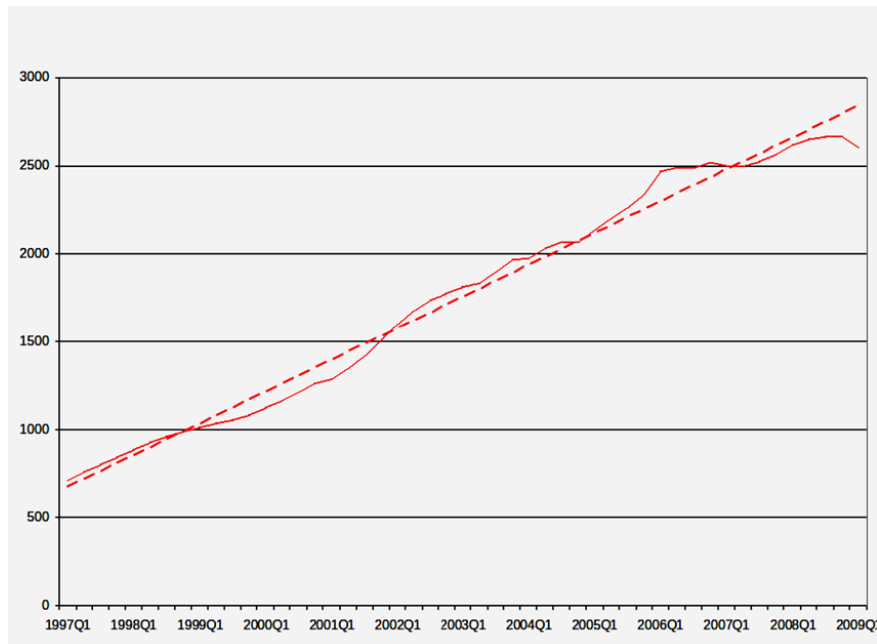
% deviation from trend, Hungary



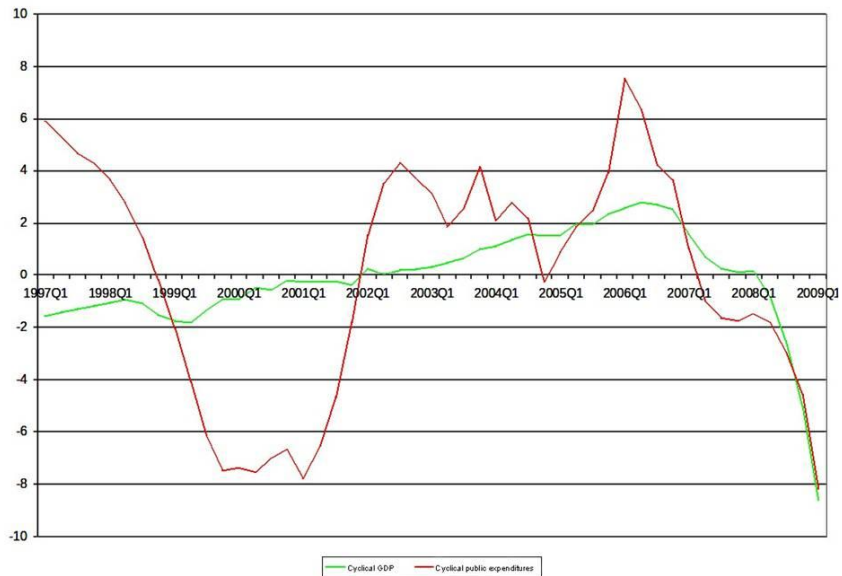
Inflation and interest rate, %



Public expenditures (bn HUF)



Deviation from trends of public expenditures and GDP (%)



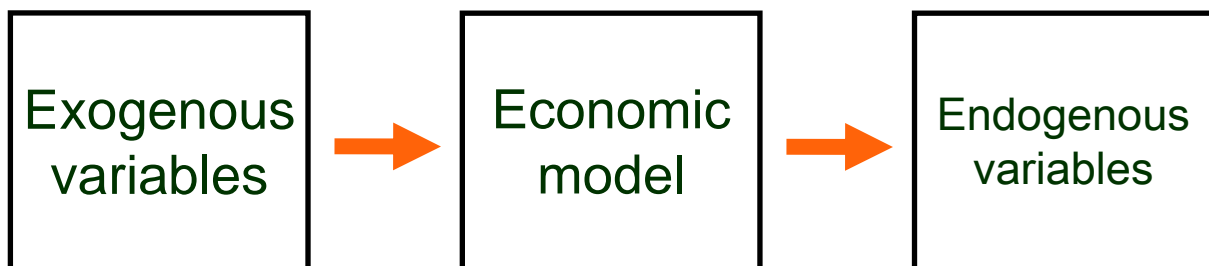
What is an economic model?

- Economic models are **simplifications** of the complex world.
- We neglect the irrelevant part of the world.
- What do we use it for?
 - Explain the relationships between economic variables.
 - Forecast economic phenomena.
 - Support policy decisions.

Which is the good economic model?

- There are plenty of economic models, which one is the correct?
- No unambiguous answer.
- Whether a model is correct can be decided only in the light of a given question.
- There are at least as many correct models as many economic questions.

How does an economic model work?



Exogenous variables

We would like to know how do the price and quantity of cars sold change if the personal income increases after the crisis.

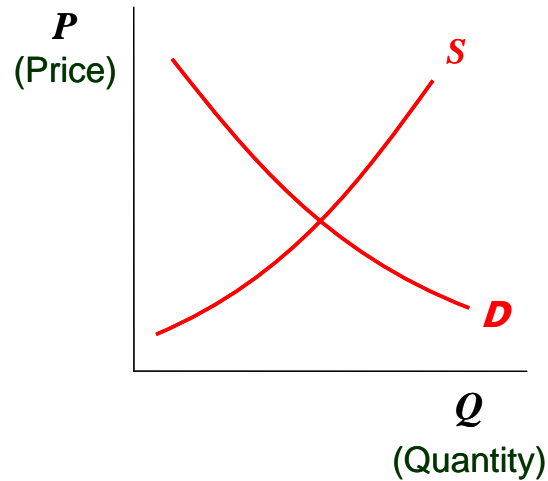
Variables:

- Q_d : quantity demanded
- Q_s : quantity supplied
- P : price of the cars
- Y : average income

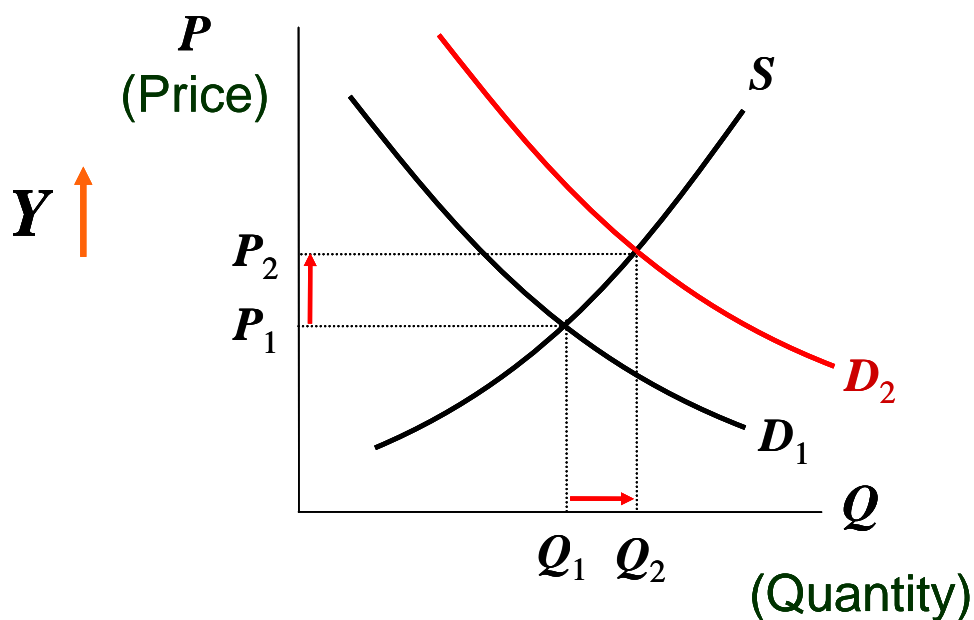
Micro example of modeling the market of cars

Functions:

- $Q_d = D(P, Y)$
demand function
- $Q_s = S(P)$
supply function



Micro example of modeling the market of cars



Categorization of variables

The behavior of which variables is explained by the model?

Endogenous variables: **P, Qd, Qs.**

The behavior of which variables is external in the model?

Exogenous variable: **Y.**

What is this simple model good for?

There is no such model which could explain everything!

- It is a good model if we want to know how the market price of cars changes if the income of the people changes.
- This model is not suitable if we want to know why does the income change.

The elasticity of prices

Question:

How quickly can the prices adjust if there are changes in the market?

- The prices change immediately, the market **clears**.
(Long run)
- The prices are inelastic, the market does not clear. The supply and demand on the market are not always equal. Surplus and deficit are possible!
(Short run)

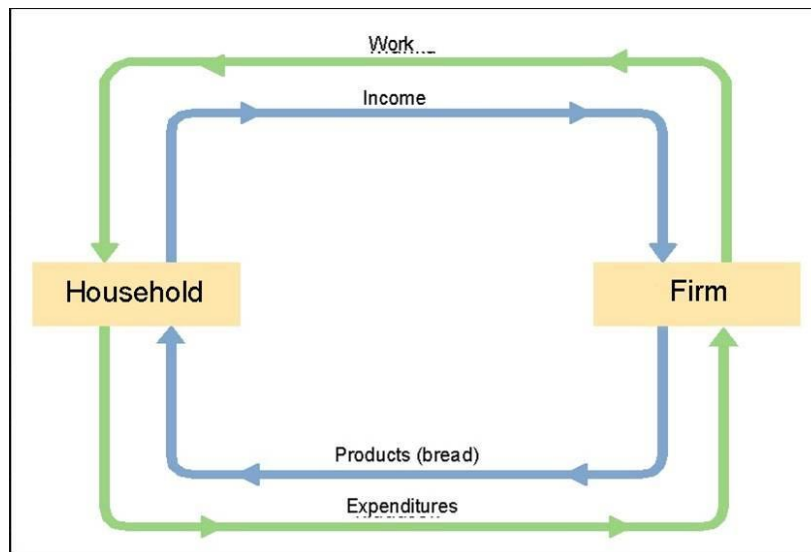
GDP

Gross domestic product

DEF1: Total income of the economic agents in a country.

DEF2: Total expenditure on goods and services in a country.

Rotation of income and expenditure



Other measures of income

Gross national product:

GDP – income of foreign agents who produce domestically + income of domestic agents who produce in foreign countries = GNP

Net national product:

GNP – amortization = NNP

(GNP–GDP)/GDP (2002)

USA	1,0
Angola	-13,6
Brazil	-4,0
Canada	-1,9
Hong Kong	2,2
Kazakhstan	-4,2
Kuwait	9,5
Mexico	-1,9
Philippines	6,7
UK	1,6

Calculating the GDP

Assume that only apples and oranges are produced in a country. Then the GDP is:

Real GDP vs. nominal GDP

$$GDP = P_{apple}Q_{apple} + P_{orange}Q_{orange}$$

$$NominalGDP = P_{apple}Q_{apple} + P_{orange}Q_{orange}$$

$$RealGDP = P_{apple}^{\leftarrow 1}Q_{apple} + P_{orange}^{\leftarrow 1}Q_{orange}$$

$$GDPdeflator = \frac{NominalGDP}{RealGDP}$$

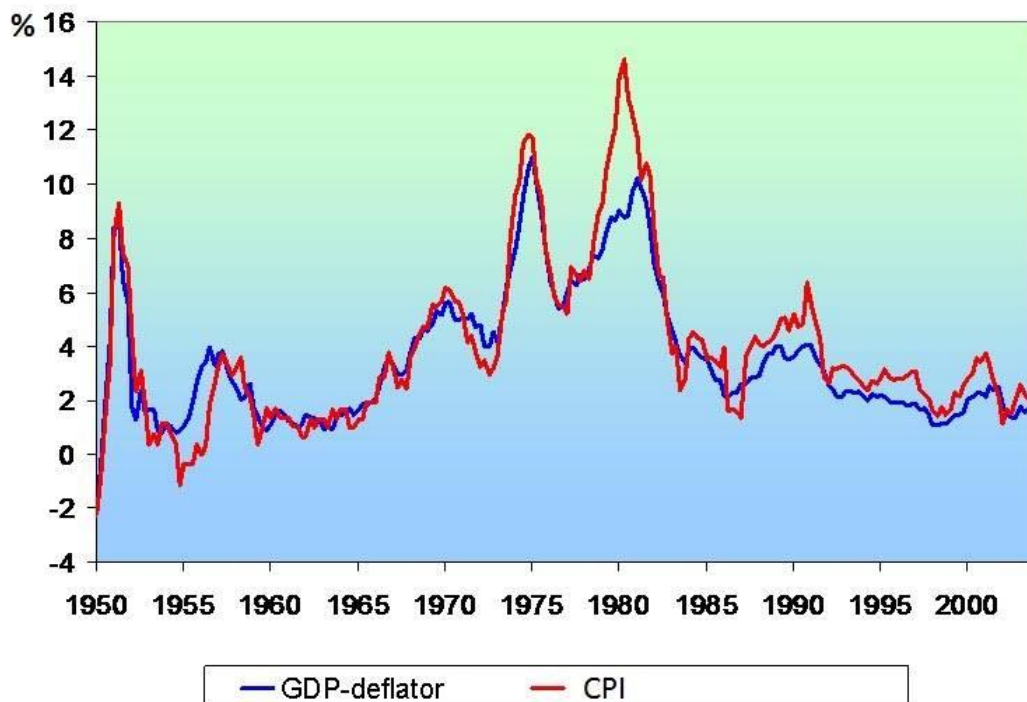
Measures of inflation

$$GDPdeflator = \frac{P_{apple} Q_{apple} + P_{orange} Q_{orange}}{P_{apple}^{(-1)} Q_{apple} + P_{orange}^{(-1)} Q_{orange}}$$

Consumer price index:

$$CPI = \frac{P_{apple} Q_{apple}^{(-1)} + P_{orange} Q_{orange}^{(-1)}}{P_{apple}^{(-1)} Q_{apple}^{(-1)} + P_{orange}^{(-1)} Q_{orange}^{(-1)}}$$

GDP-deflator vs. CPI (U.S.)



Employed, inactive, unemployed

Labor force status categories (Hungary):

The statistical office analyzes the population aged between 15–74

Inactive: Those who did not work in the given week, did not search job, or did search but could not start working.

Active: Everyone else, i.e. those who are on the labor market.

Employed: Those who worked at least one paid hour in the given week, or was absent from his/her workplace temporarily (due to illness, holiday, etc.)

Unemployed: Economically active but not employed.

Employed, inactive, unemployed

To be categorized as unemployed these are needed:

To belong to the group of economically active.

Not to work in the given week, and not to have a workplace from where he/she was absent.

Made efforts to find a job in the previous four weeks.

Could start working within two weeks if he/she found a job.

Employed, inactive, unemployed

- Summary:
 - Total population
 - – Below 15 or above 74

 - = population in the relevant age groups
 - – Inactive

 - = Active
 - – Employed

 - = Unemployed

Employed, inactive, unemployed

$$\text{Unemployment rate} = \frac{\text{Unemployed}}{\text{Active}}$$

$$\text{Employment rate} = \frac{\text{Employed}}{\text{15–74 years old}}$$