

# ECONOMICS 2

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## Week 13

# Summary and further issues

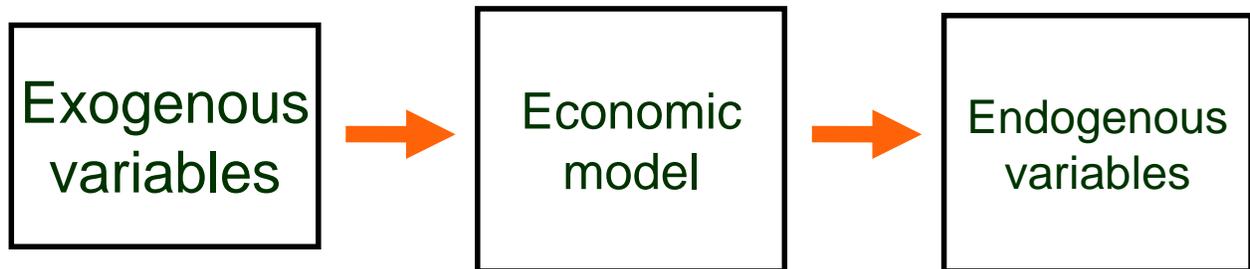
## Outline

- Economic models
- Growth, inflation, unemployment in the long run
- What can economic policy do in the short run?
- Lucas critique and the latest approaches in macroeconomics

## What is an economic model?

- Economic models are **simplifications** of the complex world.
- We neglect the irrelevant part of the world from the model.
- What do we use the models for?
  - To explain relations between economic variables
  - To support economic policy decisions.

## How does an economic model work?



## Categorization of the models studied

	Closed models	Open models
Long run	Output is determined by the production function, prices adjust, equilibrium is ensured by the real interest rate and investments.	The interest rate adjusts to the foreign rate, equilibrium is ensured by the real exchange rate and net export.
Short run	Prices are sticky, output can deviate from its potential level. Equilibrium is achieved on the markets of goods and money jointly.	Due to sticky prices it is enough to analyze the dynamics of nominal exchange rate and net export.

## Growth in the long run

The Solow model is discussed in details in the book, but it is not part of our course. The aim of the model is to explain long run growth.

Growth is exogenous in the model, it is explained by factors like savings rate, population growth, technological development, which basically cannot be influenced by economic policy.

A weakness of the model is that it has no policy recommendations for boosting long run growth.

## Convergence hypothesis

The production function of the model has partially decreasing rate of return. This implies that it is worthwhile to allocate money to countries with low capital than to those with high capital. Thus, according to the model the capital moves automatically from countries with low capital to those with high capital. This could ensure that poor countries can automatically converge to rich countries.

This hypothesis is not confirmed by time series of many countries.

## Endogenous growth models

The aim of endogenous growth models is to avoid the above mentioned two problems of the Solow model.

However, it is still not unambiguous what kind of economic policy measures characterize the converging countries and the countries that lag behind for all.

(If it were unambiguous then there would be no poor countries.)

Important factors, among others:

- Quality of education, human capital
- Openness of the economy

- Appropriate system of laws

## Unemployment in the long run

It can be observed that on the labor market there is permanent excess supply. The rate of this excess supply is the **natural rate of unemployment**.

Reasons of long run unemployment:

- Frictional unemployment
  - Finding the appropriate job takes time
- Structural unemployment
  - Due to sticky wages there is less workplace than the number of people searching jobs.

## Long run unemployment and economic policy

Economic policy measures aimed at decreasing unemployment:

- Support the flow of information about jobs
- Organize trainings
- Decrease unemployment benefit or the period of eligibility

## Inflation in the long run

The value of money is determined on the money market. Its supply is ensured by the banking system, the central bank is responsible for the proper functioning of this system.

In our long run models there is classic dichotomy, i.e. the nominal variables (expressed in terms of money) do not affect the real variables.

Therefore in the long run there is no trade-off between unemployment (real variable) and inflation.

## Short run

In the short run the output of the economy fluctuates around its potential value.

In the short run the aggregate demand determines the level of GDP. The IS–LM model shows what factors affect the aggregate demand.

If we have information on the IS–LM system in an economy then in theory we can mitigate the harmful effects of economic fluctuation.

## Discussion on economic policy

Limitations of economic policy:

- Some data, like GDP, are available only with delay.
- We have uncertain forecasts about the future.
- The economic policy measures affect the economy with delay.

Questions:

- Should we follow active or passive economic policy?
- Should we follow discretionary or rule based economic policy?

## Unemployment and inflation

In the short run the economic policy has to face the trade-off between unemployment and inflation.

The trade-off is present only in the short run.

If a negative shock affects the economy then stagflation can take place, i.e. the economy stagnates and inflation is high at the same time.

# Inflation and costs

Inflation is costly. Cutting inflation is also costly?

Both costs are difficult to estimate. How should we decide, how much we should cut the inflation? What is the optimal level of inflation?

Several studies try to determine the optimal level of inflation. Strictly speaking there is no consensus, but the authors agree that low but positive inflation is the best.

## Inflation targeting system

Nowadays the most common monetary policy strategy is inflation targeting. This means that the central bank tries to determine the optimal level of inflation and keep the inflation around that.

The inflation target of the ECB is below 2%.

In Hungary the inflation target is 3%.

In a converging economy the inflation can be reasonably higher than in the developed countries (Balassa–Samuelson effect).

## Lucas critique

The economic models do not take into account that the economic policy changes the behavior of the people.

Example: the monetary policy can affect the inflation expectations of the people. On the other hand, the inflation is affected by inflation expectations.

Response to the Lucas critique: micro based macroeconomics.

## Latest approach

Aim: include the individual decision making in the model.

Tool: analyze with the tools of microeconomics the utility maximizing behavior of an individual with constrained resources.

The results improve but do not contradict what we have learnt up to now.

## Consumption

The traditional approach is that the consumer devotes given ratios of his/her income on consumption and saving. Our knowledge was based on results from the past.

According to the modern approach the consumer borrows or saves money so as to maximize welfare over a given time horizon, according to his/her best knowledge.

## Investment

It is not part of the course but included in the book that the investment decisions of the firms can be derived from their profit maximizing behavior.

The firm is willing to increase its investments until the positive effect on profits is greater than the cost of the investment (the interest costs).

# Macro models in practice

Macro models are frequently applied by central banks. In Hungary the MNB is one of the main developers of macro models.

The most trivial benefit is the forecasting. The MNB publishes quarterly reports in which it analyzes previous forecasts, and gives new forecasts on important macroeconomic variables.

## Models at the MNB

Partial, expert models.

The models do not intend to capture the whole economy, only a segment of that.

E.g. inflation forecasting model. In the short run these models are the best predictors, but can not capture the interactions between the sectors. E.g. these can not capture the effect of inflation on unemployment.

## Models at the MNB

Macro models:

- N. E. M. (Quarterly Projection Model) A well developed forecasting model, which can capture those relationships that are not captured by the partial models.
- PUSKAS: This models applies the latest approaches, the results of the model are already used, but the model is under development.

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