

MGM 112

Introduction to Economics

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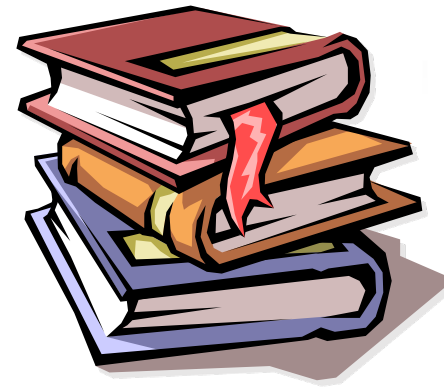
Lecture 9 Introduction to Macroeconomics



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY



- The Subject Matter of Macroeconomics
- The History of Macroeconomics
- Key Macroeconomic Issues
- Principles of Macroeconomic Analysis
- Macroeconomic Agents and Macroeconomic Markets
- The Model of Circular Flows
- The Macroeconomic System



Objectives

- How does the economy operate in short-run and in long-run?
- What are the main indicators of economic condition?
- What is the centerpiece of macroeconomics?

Syllabus

**I- What is
Macroeconomics?**

**II-Macroeconomic
Agents**

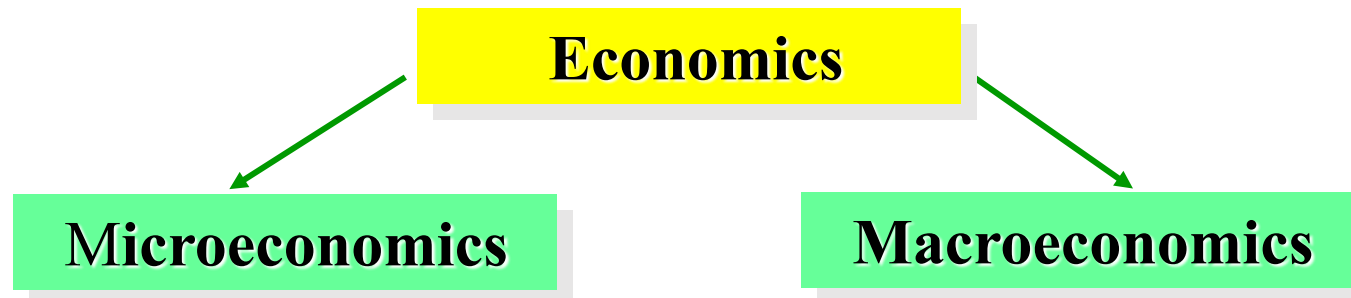
**III-Principles of
Macroeconomic
Analysis**

I- What is Macroeconomics?

Macroeconomics is one of the two branches of Economics.

Economics is a discipline which studies how scarce economic resources are allocated and used to maximize production for a society. It is a **social science** which deals with **economic behavior** of individuals and organizations engaged in the production, distribution and consumption of goods and services.

The study of economics is subdivided into two general fields:



Macroeconomics and Microeconomics

Macroeconomics

- ✓ analyzes the *economy as a whole*;
- ✓ studies *aggregate economic behavior*, i.e. the behavior of aggregate economic agents on aggregate economic markets;
- ✓ deals with the economic issues that affect the *entire economy* and *most of society*;
- ✓ studies *aggregate variables* such as gross domestic product, national income, aggregate demand, aggregate supply, general price level, rate of unemployment, public deficit, exchange rate, etc.

Microeconomics

- ✓ analyzes *individual* components of the economy;
- ✓ studies *economic behavior of individual units* (individual firm or individual household) on *markets for particular goods* and services (wheat, computers, oil, bicycles, gold, etc.);
- ✓ deals with the decision-making of a *certain firm* (a producer) or a *certain household* (a consumer);
- ✓ studies such variables as the amount of a firm's output or of a consumer's income, quantities demanded and supplied of particular goods and their prices, etc.

Macroeconomics versus Microeconomics

	Microeconomics	Macroeconomics
Subject	Economic behavior	Economic behavior
Level of analysis	Individual units	Entire economy
Agents	Individual	Aggregate (sectors of economy)
Markets	Particular goods and services	Composite
Prices	Relative	Absolute
Market Adjustment	Only via changes in prices	In the short run via changes in quantities

**Study of the Economy
as a Whole**

MACROECONOMICS

**Study of
economy-wide
phenomena**

**Contrasts with
Microeconomics**

**National
Output**

Includes National,

Regional, &

Global Economies

**National
Income**

Inflation

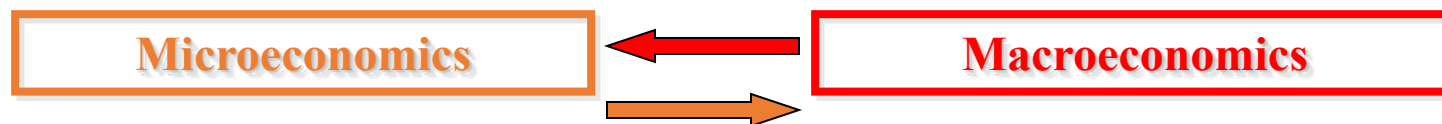
Unemployment

**The Big
Picture**

Using Microeconomics in Macroeconomics

Macroeconomics is based on microeconomics (has microeconomic foundations), because **macroeconomic events** are the **result of the decisions of millions of individual agents**, maximizing their own welfare and arise from the interaction of many people.

At the same time all the **decisions of individual agents** are made taking into account the **macroeconomic situation**.



Macroeconomics as a Special Discipline

But ...

- ✓ despite both disciplines use the same variables, macroeconomic variables are **not just a simple sum** of variables that reflect individual decisions (examples: total output, aggregate demand, general price level, etc);
- ✓ **not every statement** that **is true** for an individual is always true for the entire economy (example: the paradox of thrift).

Thus, microeconomics and macroeconomics have **specific subjects** and **methods of analysis** and are based on specific approaches and theories. They are even taught as separate disciplines.



Why to Learn Macroeconomics?

Macroeconomists are concerned with issues important:

- ❑ for economic health of every nation;
- ❑ for all economic agent as the base of their decision-making;
- ❑ to estimate proposals made by politicians and which can have great impact on national and world economy.

The state of the macroeconomy affects:

- ✓ everyday life and welfare of *everyone*;
- ✓ economic activity of *every firm*;
- ✓ political sphere, i.e. *government policy*;
- ✓ well-being of the *whole society*;
- ✓ the peace and stability within the country and *in the world*.

It is almost impossible in today's complex world to be a responsible citizen without having some grasp of economic issues and principles.

The Importance of Macroeconomics

Macroeconomic theory

- ✓ reveals and explores *the regularities* of macroeconomic processes and events;
- ✓ aims to *explain* macroeconomic phenomenon;
- ✓ helps to understand *the cause-and-effect relations* in the aggregate economy;
- ✓ serves the base for elaboration of *principles, tools and measures* of *macroeconomic policy* that might prevent or improve economic performance and can in the best way serve to the needs of the society;
- ✓ provides the framework to *make forecasts* of future economic development, to *predict* future economic problems.

Macroeconomics represents a *fascinating intellectual occupation* that has *great practical importance*.

Key Questions Macroeconomists to Answer

- ✓ Why do incomes grow? Would our children live better than we do?
- ✓ Why are some countries richer than others? Why do some countries are growing faster than others?
- ✓ Why recessions and expansions occur in the economy?
- ✓ Why is there unemployment? Is it a necessary part of economic life? Why unemployment is low in some countries and high in the others?
- ✓ Why prices grow? What is the cost of inflation for the society?
- ✓ Is it better for an economy to have budget deficit or budget surplus? trade deficit or trade surplus? to be a lender or a borrower in the world financial markets?

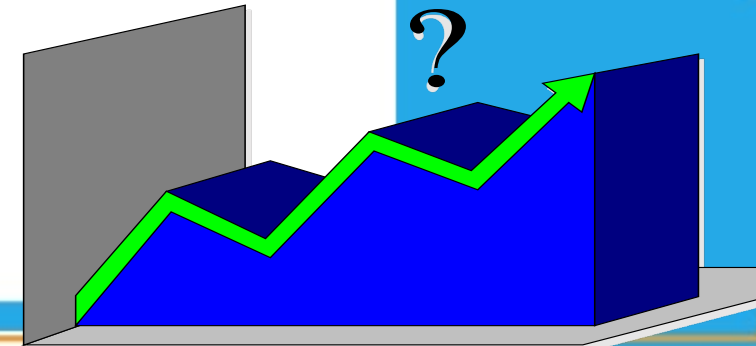
Key Questions Macroeconomists Try to Answer

- ✓ Why interest rates fluctuate? What impact have the changes in the money and stock markets on the economy?
- ✓ What are the determinants of the exchange rates? Is it good to have a strong or a weak domestic currency?
- ✓ Is government policy able to affect long-term economic growth? Can it eliminate or at least smooth economic fluctuations during the business cycle?
- ✓ How economic changes in one country effect the situation in others?

Answer: study macroeconomics and be informed!

Key Macroeconomic Issues

- **Overall output**
 - long-run changes – **economic growth**
 - short run fluctuations – **business cycle**
- **Unemployment**
- **Inflation**
- **Interest Rates**
- **Government Budget**
- **Balance of Payments and Exchange Rates**
- **Macroeconomic Policy**



The History of Macroeconomics

- Up to the XX century macroeconomics didn't exist as a separate discipline.
- Three events had the fundamental importance for the development of macroeconomics:
 - the beginning of the collection of economic information and systematization of *aggregate data* (the period of the I World War) that provided the empirical base for macroeconomic research
 - the substantiation of the fact that the *business cycle* is a recurring phenomenon (1920-s – Wesley Clair Mitchell);
 - the Great Depression (1929–1933) – *world economic catastrophe* (the Great Crash) that contradicted to the postulates of classical economists about the self-correcting economy.

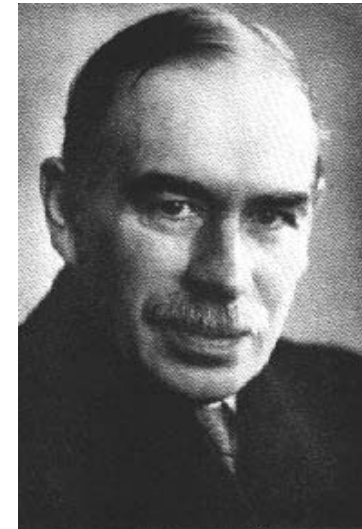
The Founder of Macroeconomics

The founder of macroeconomics as a special part of economics was a prominent British economist, lord **John Maynard Keynes**, who in **1936** published his famous book

«General Theory of Employment, Interest and Money».

He showed that macroeconomics has a special subject and some special methods of analysis.

His contribution to economic theory was so large, that it was called the **«Keynesian revolution».**



Classical School: Basic Propositions

- Economy consists of two separate sectors: the real sector and the money sector $\Rightarrow$ real variables do not depend from nominal variables = the principle of «**classical dichotomy**» and «neutrality of money».
- There is **perfect competition** in all the markets $\Rightarrow$ economic agents cannot influence market prices, they are price-takers.
- All the **prices are flexible** and are set by the relation between supply and demand $\Rightarrow$ the principle of A.Smith's «**invisible hand**» and «**market clearing**».
- Government has no need to intervene in the regulation of the economy $\Rightarrow$ the principle «**laissez faire, laissez passer**».

Classical School: Basic Propositions

- The main economic problem is the **scarcity of resources**, which hence are fully used, and the economy is always at its **potential level of output**.
- The scarcity of resources poses puts in the forefront the problem of production $\Rightarrow$ the analysis of economy's behavior from **aggregate supply** side («supply-side analysis»).
- The «Say's law» acts in the economy: «**supply creates its own demand**», because each economic agent is simultaneously a seller and a buyer.
- The problem of expanding of production possibilities is resolving slowly, the mutual market adjustment is a long-term process $\Rightarrow$ the description of economy's behavior **in the long run** («long- run analysis»).

Keynes' Approach: Basic Propositions

- The central point of Keynes' theory: the market economy does not guarantee the economy's stability, and, therefore, to counteract **slumps** and **recessions** and high unemployment *government should intervene* in the economic performance and conduct the **stabilization policy**.
- During 25 years after the II World War – the period of fast economic growth in most countries – the belief that government is able to prevent recessions by actively using **fiscal and monetary policy**.
- But in the middle of 1970-x – **stagflation** (the combination of high inflation with stagnation, i.e. low and even negative rates of economic growth and high unemployment) – the conclusion: the key source of instability is the stabilization policy itself ⇒ **«Neoclassical counterrevolution»**.

Keynes' Approach: Basic Propositions

- The real sector and the money sector are related to each other $\Rightarrow$ money affects real variables, the **interest rate** is set in the **money market** rather than in the loanable funds (or capital) market.
- There is **imperfect competition** in the markets.
- **Prices** (nominal variables) are **rigid** («sticky»).
- **Equilibrium** in the markets is settled, but **not on the full-employment level**.
- Private sector expenditures are unable to provide the level of aggregate demand required to obtain the potential level of output, and, therefore, **government intervention** and government regulation is needed.
- In the conditions of underemployment of economic resources **aggregate demand** becomes the main problem of the economy («demand-side analysis»).
- Government stabilization policy affects economy in the short run, and price rigidity exists relatively for not long period $\Rightarrow$ the description of the economy's behavior in the **short run** («short-run analysis»).

Development of Macroeconomics

Macroeconomics as a science is permanently developing $\Rightarrow$ changes concern both the sense of issues and problems under study and of answers and remedies proposed.

These changes are the result of the impact of two groups of factors:



The ***appearance of new theories***, while old theories are rejected as not consistent with economic reality or as outdated in the light of new concepts.

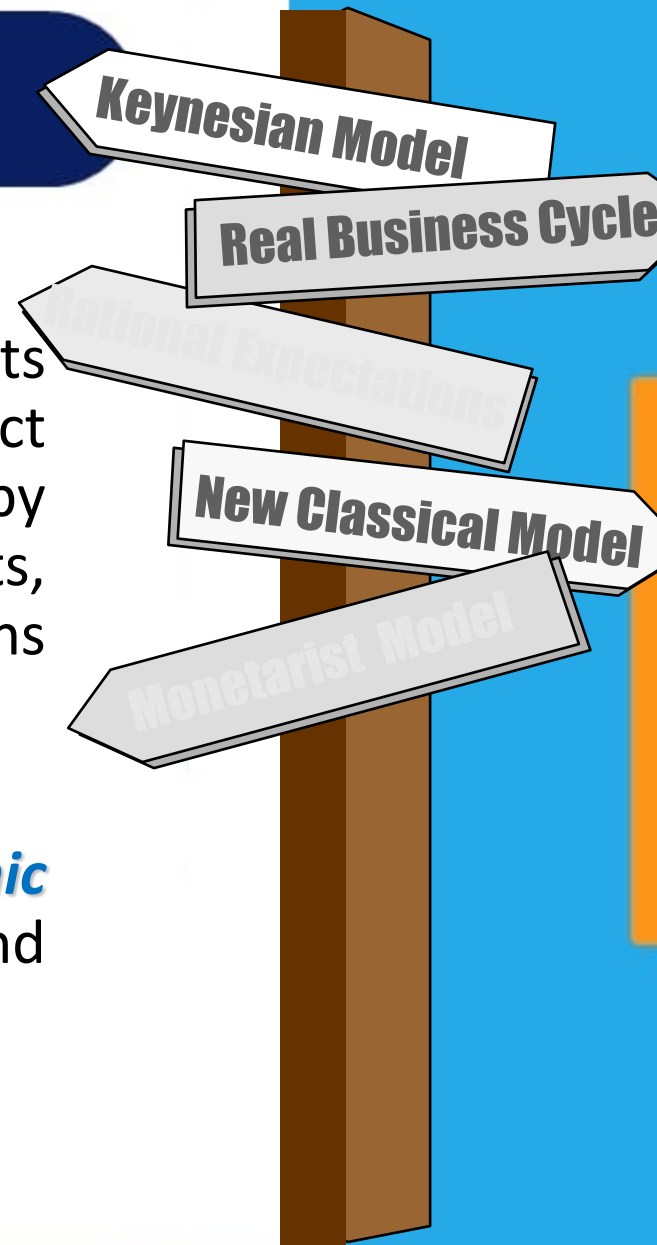


The ***permanent development of the economy*** itself, that poses new questions and requires new answers.

Diversity of Macroeconomic Theories

The diversity of approaches to the explanation of macroeconomic events and especially problems of macroeconomic policy is caused by the fact that different groups of macroeconomists construct their theories by using **different assumptions**, may differently interpret the same events, and therefore, come to different theoretical and practical conclusions and give different political recommendations.

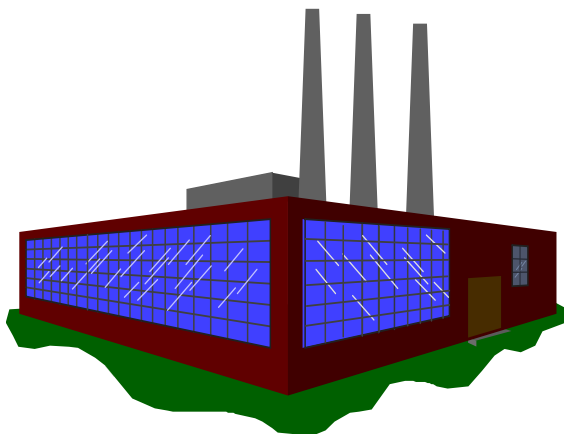
This diversity of ideas is due to the **complexity of macroeconomic problems** and allows to **examine** them **comprehensively**, thoroughly, and from **different points of view**.



II-Macroeconomic Agents

a-Households

- ✓ the owners of economic resources (suppliers of factors of production);
- ✓ the earners of national income;
- ✓ the main consumers of goods and services (demanders for aggregate output);
- ✓ the main savers (lenders).



b-Firms

- ✓ the main producers of goods and services (suppliers of aggregate output);
- ✓ the main demanders for economic resources;
- ✓ the consumers of the part of aggregate output (demanders for investment goods);
- ✓ the main borrowers.

Households and firms form the private sector of the economy.

Macroeconomic Agents

c-Government

- | | |
|---|---|
| <ul style="list-style-type: none">✓ the producer of public goods;✓ the consumer of the part of aggregate output (purchaser of goods and services);✓ the redistributor of national income (through collecting taxes and making transfer payments); | <ul style="list-style-type: none">✓ lender or borrower in the financial markets (depending on the state of government budget);✓ the regulator of economic activity:<ul style="list-style-type: none">✓ establishes and supports institutional basis for the economic performance (“rules of the game”);✓ conducts macroeconomic policy. |
|---|---|

Private and government sectors form **the closed economy** (or the mixed closed economy), that is the economy not interacting with other economies.

Macroeconomic Agents

d- Foreign sector: “The Rest of the World”

interacts with the national economy through **two channels**:

international trade

exchange of goods and services



capital flows

exchange of assets,
primarily financial (bonds and shares)



Economy that interacts with other economies (with the rest of the world) is called

the **open economy**



III-Principles of Macroeconomic Analysis



Macroeconomics is the social science and the controlled experiment is impossible. Besides, economic phenomena are very complex. That's why economists use models.

Economic model is a stylized representation of the economy, a generalization and abstraction of reality that seeks to isolate a few of the most important determinants (causes) of an economic event in order to provide a better understanding of that event.

Economic models are constructed and used

- to **simplify** the analysis of complex economic reality;
- to **examine** the relationship between economic phenomena and the regularity of their development;
- to **understand** what goes on in the economy and how the economy works;
- to **develop policies** that might prevent, correct, or alleviate economic problems and improve the situation in the economy;
- to **forecast** future development of economic process.

Macroeconomic Models

To study the most important elements that explain how the whole economy works, economic models are based on **assumptions**, which cut off details unimportant for the analysis of a certain economic process or phenomenon and reduce the complexity of economic behavior.

Once modeled, economic behavior may be presented as a relationship between a dependent (endogenous) variable and a few independent (exogenous) variables.

Exogenous (independent) variable is the one whose value is determined by forces **outside** the model.

Endogenous (dependent) variable is those whose value is determined **within** the model.

The value of endogenous variable depends and is determined by the value of exogenous variables.



Macroeconomic Models

Exogenous (independent) variable is the one whose value is determined by forces **outside** the model.

Endogenous (dependent) variable is those whose value is determined **within** the model.

The value of endogenous variable depends and is determined by the value of exogenous variable.



The Rules of Model Construction

- Frequently, the endogenous variable is presented as depending upon only one exogenous variable, with the assumption that all the other exogenous variables are held constant. This principle is called by the Latin term *ceteris paribus*, meaning «other things being equal».
- Models should be *simple* and focused on the examination of the phenomenon or process under study. They do not need to be «realistic», but should be *consistent with the facts*.
- There must be the possibility of the *transition* from one model to the other depending on the context.
- There can be *no one grand «true» model* that exactly and completely describes the economic reality.

Types of Relationship between Variables

An economic model specifies whether the dependent and independent variables are positively or negatively related.

The relationship between variables is *positive* when the dependent variable moves in the *same direction* as the independent variable.

Example: *positive* relation of consumption spending from income.

The relationship is *negative* when the value of the dependent variable *increases* (decreases) when the value of the independent variable *decreases* (increases).

Example: *negative* relation of investment spending from the interest rate.

Models which specify economic reality provide the framework for organizing data, empirically testing economic hypotheses, and forecasting economic behavior.

Model Presentations

Modeled behavior can be presented by a *function*, an *equation*, a *table* and/or a *graph*.

Graphs are useful in that they provide visualization of the relationship between two variables.

An **equation** is a more concise presentation of a relationship and is essential for the forecasting of economic behavior.

For example, a relationship of consumption spending (C) from the disposable (after-tax) income (Y_D) can be shown as:

Model Presentations

➤ a *function* that reflects a positive relation of C from Y_D :

$$C = C(Y_D)$$

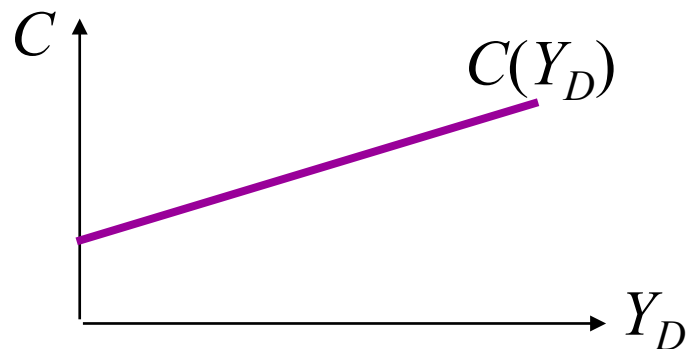
➤ an *equation*, which shows that C positively depends from Y_D , but there are other determinants of consumption, i.e. part of consumption is autonomous from income $\bar{C}$:

$$C = \bar{C} + mpcY_D$$

➤ a *table*

Y_D	400	500	600	700
C	360	440	520	600

➤ a *graph*



Importance of Using Graphs

A graph is a way of:

- **visual presentation of the relationship** and links between economic variables or of the behavior of a variable over time;
- **visual demonstration of ideas and theories**, which are less clear and even may be misinterpreted or misunderstood, when are only verbally explained;
- **visual illustration of models** proposed by economists.

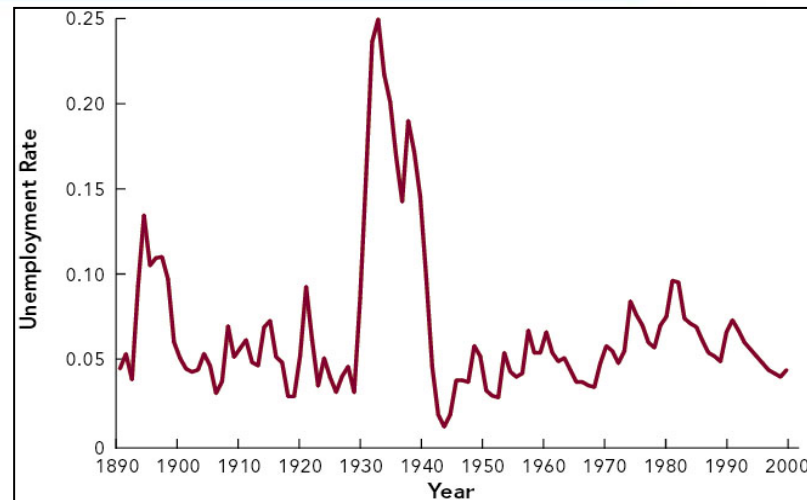
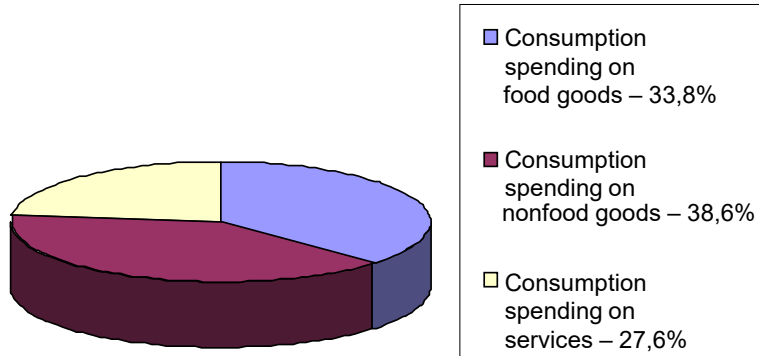
In the course of economics graphs are used for the **better perception of theoretical propositions** by students.

Lecture 9

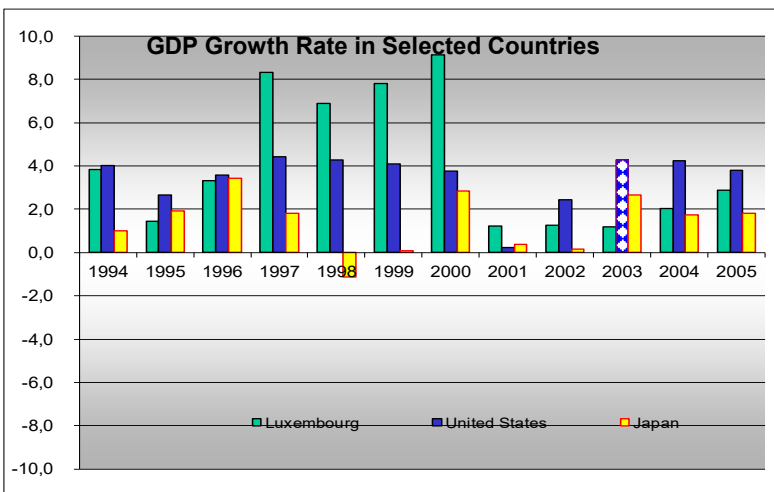
Types of Visual Data Presentation

Pie Diagram

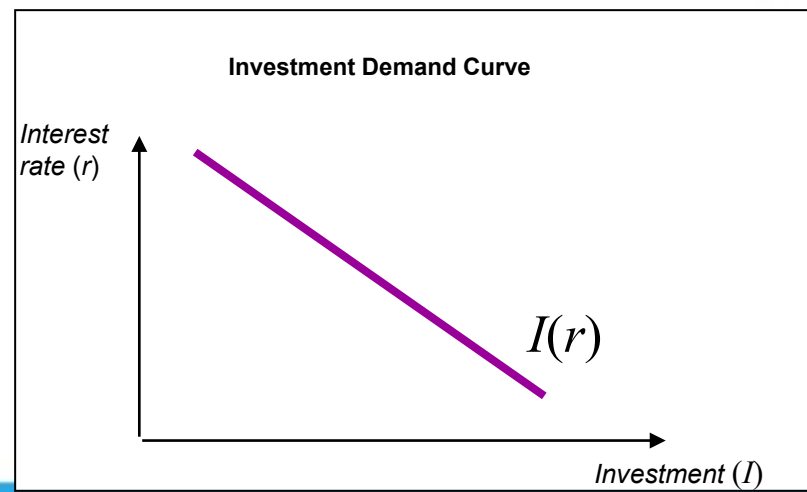
Structure of Consumption Spending, Russia, 2012



Time Series Graph



Bar Diagram



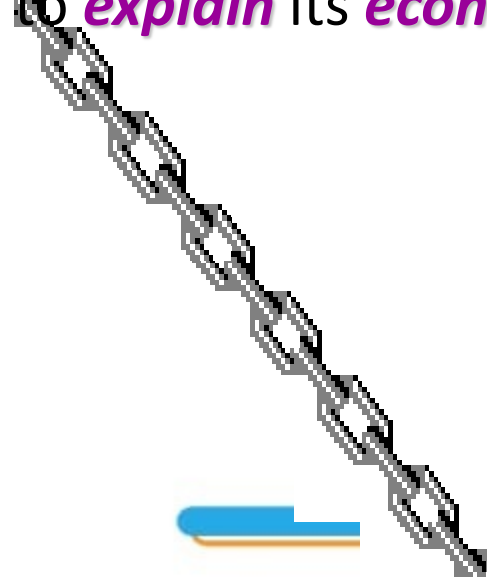
Scatter Graph

Types of Analysis

Economic analysis is the **combination** of:

- ❑ **functional** (algebraic) **analysis**;
- ❑ **graphical** (visual) **analysis**;
- ❑ **intuitive** (substantial verbal) **analysis**.

In our course of macroeconomics the intuitive analysis (intuition) will be of primary importance, because the main goal of the economist is not simply to declare relations between macroeconomic phenomena, but first of all and what is more – to **explain** its **economic sense**.



Intuitive analysis assumes the study and the **explanation of the mechanism** of macroeconomic phenomena, the **construction of logical chains** of the sequence of macroeconomic events, i.e. examination and **substantiation of the effect of one event** (or the change in one variable) **on the other**, which in turn leads to further changes.

Algebraic and Graphical Analysis: Correlation

$$y = a + bx$$

or

$$y = a - bx$$

where

- y – an endogenous (dependent) **variable**, which is plotted on one of the axes of the scatter graph, i.e. it is a consequence;
- x – an exogenous (independent) **variable**, which is plotted on the other axis of the scatter graph, i.e. it is a cause or a determinant; its change leads to the movement *along* the line;
- a – an autonomous variable, which incorporates *all the other variables* that affect an endogenous variable, and which can be represented as a point of intersection of the line with the axis; its change results in the *parallel shift* of the line;

Lecture 9

For simplicity sake in our analysis we will use the assumption about linear relationship between variables that can be represented by the following equations:

$$y = a + bx$$

or

$$y = a - bx$$

Where

▪ y – an endogenous (dependent) *variable*, which is plotted on one of the axes of the scatter graph, i.e. it is a consequence;

x – an exogenous (independent) *variable*, which is plotted on the other axis of the scatter graph, i.e. it is a cause or a determinant; its change leads to the movement *along* the line;

▪ a – an autonomous variable, which incorporates *all the other variables* that affect an endogenous variable, and which can be represented as a point of intersection of the line with the axis; its change results in the *parallel shift* of the line;

Positive and Normative Economics

Positive Economic Theory

- ✓ is the *objective* or scientific attempt to describe and *explain* the behavior of the economy and its important variables;
- ✓ reflects *facts* and studies *actual* economic *performance*;
- ✓ is an explanation why the economy *works as it does*;
- ✓ is a *basis for predicting* how the economy will respond to changes in circumstances;
- ✓ *free from subjective* value judgments;
- ✓ represents an approach of a *scientist*.

Normative Economic Theory

- ✓ involves *subjective* value judgments about what economy *must be* or what measure *is to be undertaken* on the base of a particular economic concept or theory;
- ✓ makes prescriptions *what should be done* in the economy;
- ✓ offers *recommendations for changes* in economic policy to achieve an optimal and desirable state of affairs;
- ✓ is based on *personal* (subjective) *value judgments*;
- ✓ represents an approach of a *politician*.

Summary



Macro-
Economics

national
income

unemployment

GDP

inflation



Micro-
Economics

consumer

supply

demand

price

Keynesian Theory

***Aggregate demand drives economic growth and employment.
Government intervention in the economy is necessary.***



***John Maynard Keynes
(1883-1946)***

***His ideas fundamentally
changed economic
theory and practice.***

Keynes' Arguments

***If savings exceed investment, we
get a recession***

Aggregate demand matters

***Governments should provide
counter-cyclical demand
management***

***Government should intervene if
inflation rises too much***

Lower wages do not boost jobs

Economic Model

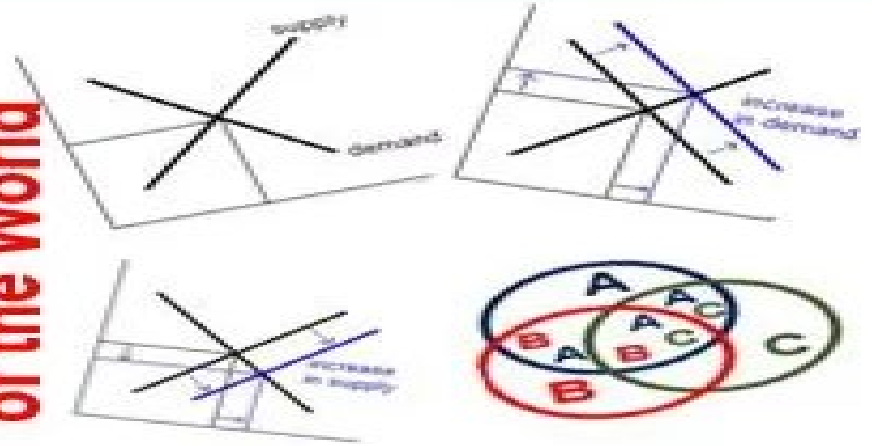
**Model
Spitfire**



Real Spitfire

Economic Models

of the World

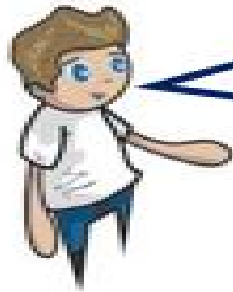


**Real
World**

An economic model is a small, simplified version of the real world.

Positive

is, was, will be



When prices fall, people often delay their purchases.



Can be proved

Connects cause & effects

Descriptive

Based on facts

Tells you what is

Objective

Normative

ought to, should



Cannot be proved

Makes recommendations

Not based on facts

Tells you should be/have been

Prescriptive

Subjective

A stack of colorful sticky notes is pinned to a dark, textured background. The top note is yellow and features the text 'THANK YOU SEE YOU AGAIN' in bold, black and red capital letters. A small pink pushpin is visible on the left side of the yellow note. Behind it, several other notes in blue and green are visible, all with black outlines.

**THANK
YOU
SEE YOU
AGAIN**