Intermediate Macroeconomics
ECN323

- Topic 1 -

by

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Outline

« The Science of Macroeconomics »
Macroeconomics Eighth Edition
by `Gregory Mankiw`

- What Macroeconomists Study
- How Economists Think

What Macroeconomists Study

Macroeconomists study economic growth. This is the change in total production of goods and services. The latter is measured by:

1. Real gross domestic product (GDP) measures the total income of everyone in the economy. Total goods and services locally produced.
2. Real gross domestic product per person (GDP per person) measures the income of the average person in the economy. It is also called per capita GDP.
3. Real gross national product measures total goods and services produced by factors of production owned by the country citizens.
4. Growth rate is the change in one of these series.

What Macroeconomists Study

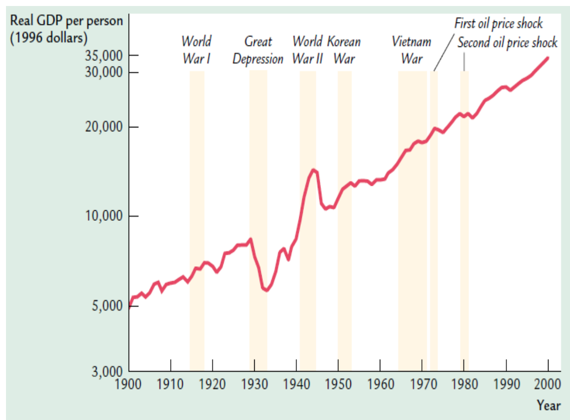

Figure: Real GDP per person in the U.S economy

What Macroeconomists Study

Macroeconomists also study fluctuations in real GDP. There are repeated periods during which real GDP increase or decrease.

1. Recession is a mild fall in real GDP.
2. Depression is a severe fall in real GDP.
3. Expanssion an increase in real GDP.

What Macroeconomists Study

Macroeconomists also study changes in prices:

1. Inflation measures the percentage change in the overall price level from the year before.
2. Periods during which the overall price level falls are called deflation.
3. Periods during which inflation rate is high and economic growth rate is low are called stagflation.

What Macroeconomists Study

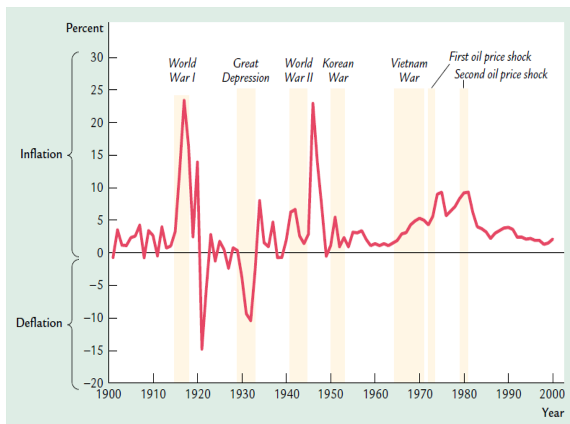

Figure: The inflation rate in the U.S economy

What Macroeconomists Study

A measure for the overall price level is:

1. Consumer price index (CPI) is a price index computed each month using a bundle that is meant to represent the « market basket » purchased monthly by the typical urban consumer.
2. GDP deflator is an index computed quarterly. It measures the level of prices of all goods and services locally produced.

CPI versus GDP deflator

1- CPI:

1. covers only consumer goods and services.
2. includes prices of imported goods.

2- GDP deflator:

1. covers all good and services produced in the economy.
2. does not include prices of imported goods.

What Macroeconomists Study

Macroeconomists also study unemployment:

Unemployment rate measures the fraction of the labor force that is out of work.

What Macroeconomists Study

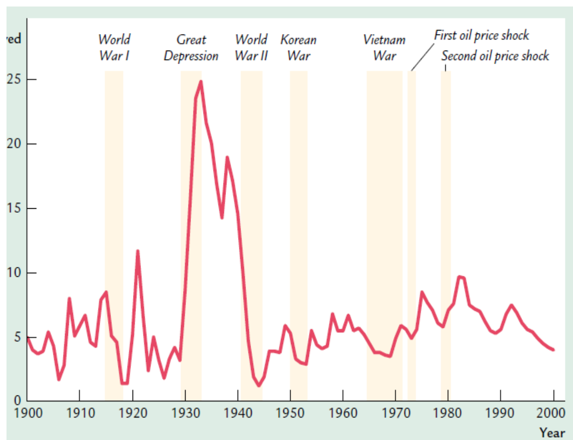

Figure: The unemployment rate in the U.S economy

How Economists Think

- Economists use **models** to:
  1. understand relationship between economic variables (GDP, inflation, unemployment)
  2. explain the economy's behavior
  3. devise policies to improve economic performance
- Models are built with mathematical tools and have two kind of variables: **endogenous variables** and **exogenous variables**:
  1. Models are simplified theories that show the key relationships among economic variables.
  2. Endogenous variables are variables that a model try to explain (model's output).
  3. Exogenous variables are variables that a model takes as given (model's input).

How Economists Think

1- Example of a model: supply and demand for pizza

Motivation: explain the factors that determine the price of pizza and the quantity sold.

We assume that the market is competitive: each buyer and seller is too small to affect the market price.

Variables:

- Q_d = quantity of pizza that buyers demand; $Q_d = D(P, Y)$
- Q_s = quantity that producers supply; $Q_s = S(P, P_m)$
- P = price of pizza
- P_m = price of materials such as cheese, tomatoes, flour ...
- Y = aggregate income

At the equilibrium

$$Q_d = Q_s \tag{1}$$

Endogenous variables: P, Q_d, Q_s
Exogenous variables: Y, P_m

How Economists Think

1- Example of a model: supply and demand for pizza

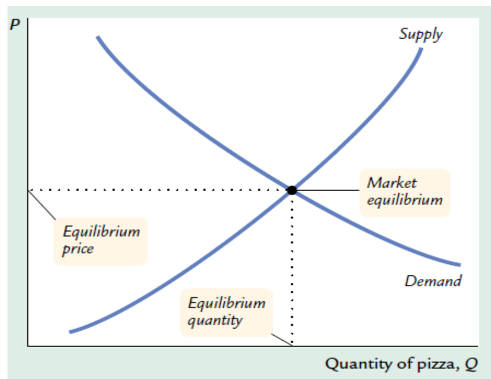

Figure: Supply and demand diagram

The demand curve slopes downward.
The supply curve slopes upward

How Economists Think

2- An increase in Y

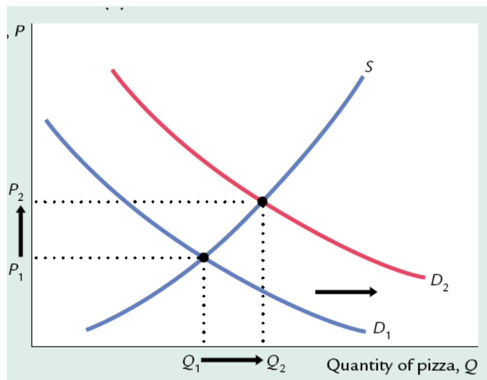

Figure: A shift in demand

An increase in income increases the quantity of pizza consumers demand at each price which increases the equilibrium price and quantity.

How Economists Think

3- An increase in P_m

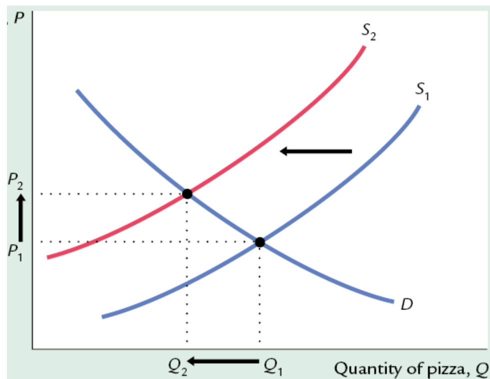

Figure: A shift in supply

An increase in the price of materials decreases the quantity of pizza produced at each price which increases the equilibrium price and decrease the equilibrium quantity.

How Economists Think

4- Introduction of an income tax T, $Q_d = D(P, Y, T)$

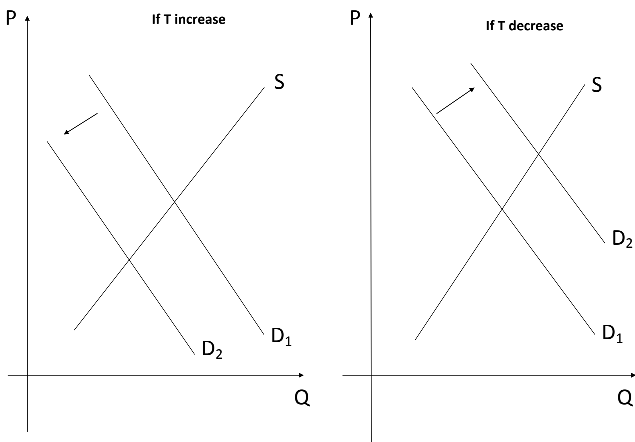

Figure: The effect of a tax on demand

How Economists Think

5- Elimination of the subsidy given to tomato's producers

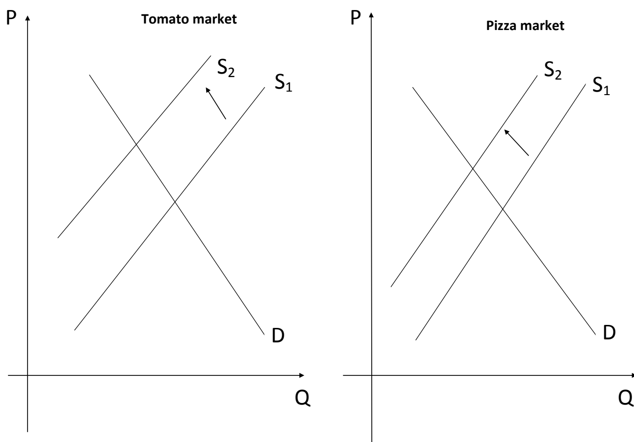

Figure: The effect of a subsidy on supply

How Economists Think

6- A movement along the demand curve *vs* a shift of the demand curve

The change that takes place in a demand curve corresponding to a new relationship between quantity demanded of a good and price of that good induce a change in the original conditions. This leads to shift of a demand curve.

1. Change in income, preferences, prices of other goods or services and expectation leads to change in demand (**shift of the demand curve**).
2. Change in price of a good or service leads to change in quantity demanded (**movement along a demand curve**)

The change that takes place in a supply curve corresponding to a new relationship between quantity supplied of a good and price of that good induce a change in the original conditions. This leads to shift of a supply curve.

1. Change in costs, input prices, technologies or prices of related goods and services leads to change in supply (**shift of the supply curve**).
2. Change in price of a good or service leads to change in quantity supplied (**movement along a supply curve**).

How Economists Think

8- The use of multiple models

- There is no single "correct" model that is always applicable. No one model can address all the issues we care about. For example,
  1. If we want to know how a fall in aggregate income affects new car prices, we can use the S/D model for new cars.
  2. But if we want to know why aggregate income falls, we need a different model.
- So we will learn different models for studying different issues (unemployment, inflation, growth).
- For each new model, you should keep track of:
  1. its assumptions,
  2. which variables are endogenous and exogenous,
  3. which questions it can help us understand,

How Economists Think

9- Prices: Flexible *vs* Sticky

- **Market clearing** is an assumption that prices are flexible and adjust to equate supply and demand.
- In the short run, many prices are sticky -they adjust only sluggishly in response to supply/demand imbalances.

  Example:

  1. Labor contracts that fix the nominal wage for a year or longer.
  2. Magazine prices that publishers change only once every 3-4 years.

How Economists Think

9- Prices: Flexible *vs* Sticky

- The economy's behavior depends partly on whether prices are sticky or flexible:

  If prices are sticky, then demand won't always equal supply. This helps explain:

  1. unemployment (excess supply of labor)
  2. the occasional inability of firms to sell what they produce

- Long run: prices flexible, markets clear, economy behaves very differently.
- Short run: prices are sticky

- Read Chapter 1 and 2 of Gregory Mankiw
- Next time: Chapter 2 of Gregory Mankiw « The Data of Macroeconomics »