

Intro to Economics Lecture Notes

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These are the lecture notes for Bryn Mawr College's undergraduate ECON B105, named Introduction to Economics, instructed by Margaret Ziurys Clarke. All errors are my responsibility.

Use these notes only as a guide.

This class is being taught remotely via Zoom.

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1 Chapter 1: Limits, Alternatives, and Choices

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1.1 Historical Background

Adam Smith, philosopher Smith's magnum opus is the book *The Wealth of the Nations* (1776). Talks about an invisible hand (self-interest) which operates the economy: If each individual pursues its own interest, they frequently promote society's interest effectively. Smith begins the tradition of classical economics.

Ricardo, Malthus, Mill Start of 19th century. David Ricardo writes about the theory of capital. Thomas Robert Malthus writes about labor and population theories. James Mill synthesizes ideas of economics.

Karl Marx Karl Marx challenges the capitalist notion of common good, in the book *Das Kapital* (1867). Capitalism exploits and will result in a revolution.

John Keynes During the Great Depression, John Maynard Keynes writes *The General Theory of Employment, Interest and Money* (1936). He attacks macro aspects of classical economy and the "hands-off" approach (free market). He advocates for government intervention to solve major problems in economics, such as employment and inflation. This work gives rise to Keynesian economics.

Neoclassical Economics Second half of 20th century. Neoclassical economics: rejection of Keynesian economics.

1.2 Economic Terms

Definition of economics Economics is a social science concerned with using scarce resources to obtain the maximum satisfaction of the unlimited human wants of society.

Ceteris paribus Other things being equal. In economics, it is usual to consider all variables are held constant, except the ones under consideration.

Correlation and causation Correlation is a systematic and dependable association between two sets of data. It is not definitive. Causation is definitive. "*Correlation does not imply causation*".

1.3 Macroeconomics versus Microeconomics

Definition of macroeconomics Macroeconomics is concerned with aggregates (basic subdivisions, such as government, households, business sectors). No attention to specific units. Examples of topics are: total outputs, total incomes.

Definition of microeconomics Microeconomics is concerned with specific economic units. Takes apart the aggregates. Examples of topics are: price of a specific product, the income of a particular firm/household/industry.

1.3.1 Macroeconomics

Fallacy of composition Generalizations made at the micro level may not be valid at the macro level.

Economic goals The consumer price index, gross domestic product are example of indexes economists uses to measure aspects of the economy. Price stability and growth, measured by the indices above, are goals. Full employment is another goal: no workers should be involuntarily out of work. Balance of trade is another goal: there is a reasonable balance between exports and imports.

1.3.2 Microeconomics

Factors of production (economic resources) Land — all natural resources which are usable of production. Capital — man-made resources used to produced goods and services; capital goods do not directly satisfy human goods. Labor — physical and mental human effort used to produce goods and services. Entrepreneurial ability — combines labor, land and capital and produces products, makes non-routine decisions, inovates, bears risk.

These resources are limited.

1.3.3 General

The economizing problem There are scarce resources, but unlimited human wants. Therefore, economic units search for an efficient allocation of resources.

Production possibilities model We will create a production possibilities model for the classroom. We will assume some things:

- Efficiency: full employment and full capacity (of all economic resources).
- Fixed and limited resources — may be reallocated.
- Fixed technology.
- We'll work in a economy that produces only two products: consumer good (satisfies imetiate need, ex. bread), capital good (satisfies more needs in the future, ex. robots).

Production possibilities table It deals with the question of choice: how much of each good should we produce?

	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>
Bread production	0	1	2	3	4
Robot production	10	9	7	4	0

Table 1

The extremes (*A* and *E*) are unrealistic. Society wants a combination of consumer and capital goods.

Production possibilities curve See fig. 1.

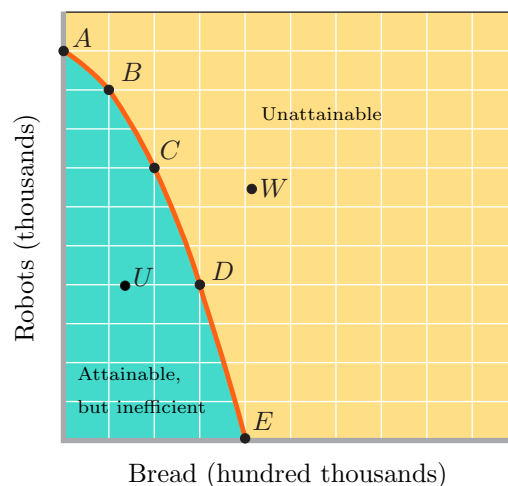


Figure 1: Example of production possibilities curve.

Opportunity Cost The amount of other products that must be sacrificed to produce a unit of a given product.

Law of Increasing Opportunity Cost As the amount of a product is increased, the amount of opportunity cost to produce a unit of this given product increases. Resources are better suited for some types of production than others. Thus, each time, to produce more breads, productivity is going to be lost. See table 2.

	Robots	Bread
Move from A to B	-1	+1
Move from B to C	-2	+1
Move from C to D	-3	+1
Move from D to E	-4	+1

Table 2

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1.4 Changing the assumptions

Unemployment of resources Represented by datapoint U on fig. 1.

Technology increasing Represented by a shift of the curve to up and right.

1.5 Extra

Arthur Laffer Low taxes incentivize people to work more. Thus, it makes economies grow.

2 Chapter 2: The Market System and Circular Flow

2.1 Five Fundamental Questions

What goods and services will be produced?

How will the goods and services be produced? What combination of resources and technologies will be used to produce goods and services? How will the production be organized?

Who will receive the output? How should total output of goods be shared? Suggestions: based on need; based on contribution to product.

How will the system adapt to change? Can the economic system change fast enough to remain efficient? This implies a reallocation of resources, since consumer taste, resources and technology changes.

How will the system promote progress? How do we get output increase? How to get economic growth? This means the standard of living goes up. Technological improvements and capital accumulation will promote this.

2.2 The Economic Systems

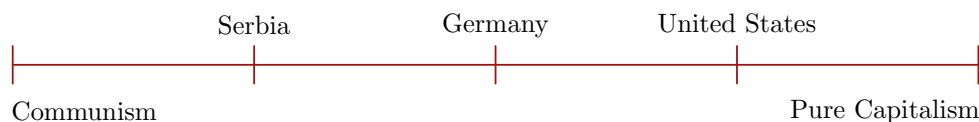


Figure 2: Communism–Capitalism Spectrum

Industrial Advanced Economies

Pure Capitalism Private ownership of resources. Direct economic activity. Free market. There's no need for any government intervention.

The Command Economy: Communism Public ownership of most resources. Economic decisions were made by a central economic planning board.

Mixed Systems Fall between Communism and Pure Capitalism. Examples:

- **U.S.**
There is some government intervention and ownership.
- **Authoritarian Capitalism, e.g. Nazi Germany**
Privately owned resources. Heavy government control over the markets.
- **Market socialism, e.g. Serbia**
There is public ownership of resources, but also a partial free market.
- **Traditional/Costumary Economy, e.g. some Middle East countries**
Property ownership and government intervention are based on customs. Religions and cultural values dictate economic activity.

3 Chapter 3: Demand, Supply and Market Equilibrium

3.1 Price Determination

Introduction Why does the cost of — is —?

Price Price is a measure of a product's value.

Objective Value Cost of production value. Based on supply.

Subjective Value Based on individual preferences. Based on demand.

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3.2 Demand

Definition The relationship between the price of a product and the quantity people will buy.

Law of Demand Ceteris paribus, as price increases, the corresponding quantity demanded is going to decrease. Negative correlation. Ceteris paribus, quantity demanded is a function of price. See fig. 3.

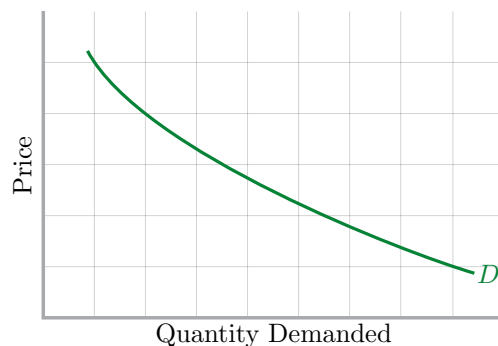


Figure 3: Demand curve

Individual vs. Market Demand See fig. 4.

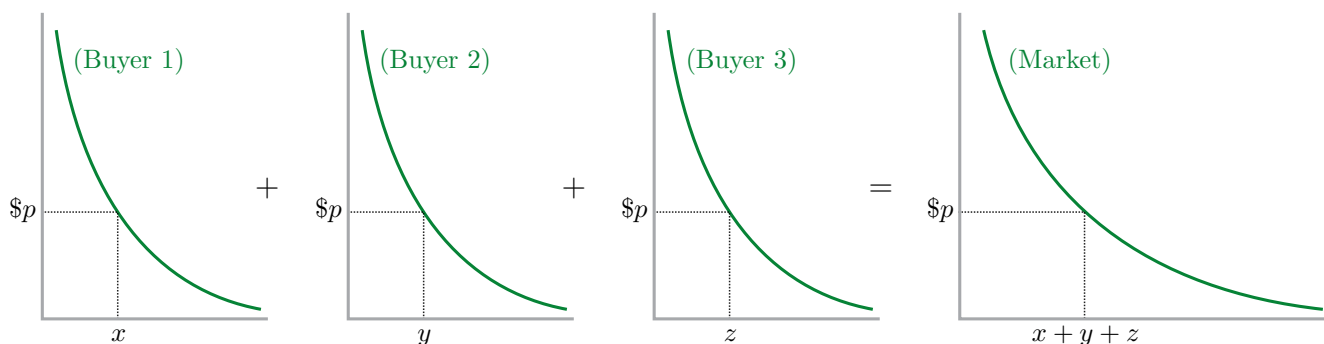


Figure 4: Market demand curve from individual demand curve

Changes in Quantity Demanded Quantity demanded changes because price changes. Graphically, it is a movement along a fixed demand curve caused by only a change in price. See fig. 5

Determinants of Demand

- Consumer Tastes/Preferences
- Number of Buyers (positive correlation)
- Income: normal goods — demand varies directly with income; inferior goods — demand varies inversely with income.

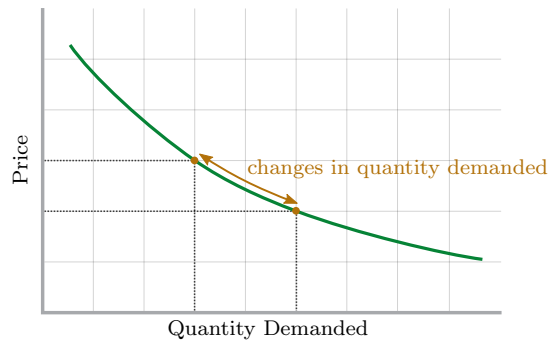


Figure 5: Changes in quantity demanded

- Prices of Related Goods: price of substitute goods (positive correlation), price of complementary goods (negative correlation).
- Consumer Expectations: future prices, future availability and future income.

Changes in Demand Shift of the whole demand curve because of determinants above (except from price). See fig. 6.

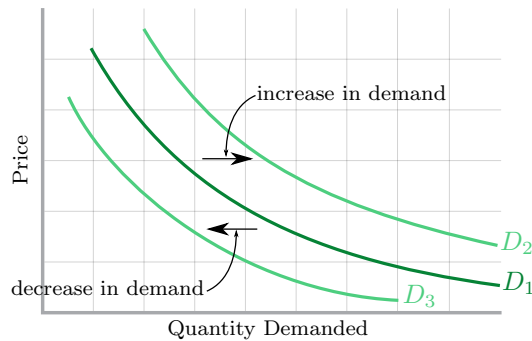


Figure 6: Changes in demand

3.3 Supply

Definition The relationship between the price of a product and the quantity people will sell.

Law of Supply Ceteris paribus, as price increases, the corresponding quantity supplied will increase. Positive correlation. Ceteris paribus, quantity supplied is a function of price. See fig. 7.

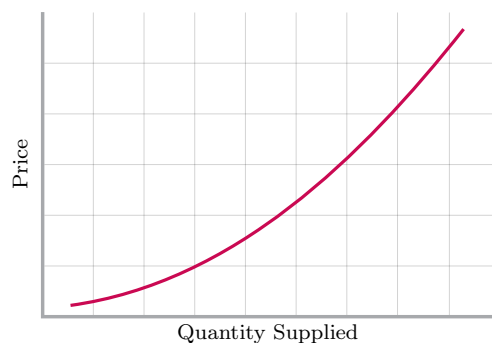


Figure 7: Supply curve

Individual vs. Market Supply Calculated the same as demand.

Changes in Quantity Supplied Quantity supplied changes because price changes. Graphically, it is a movement along a fixed supply curve caused by only a change in price. See fig. 8.

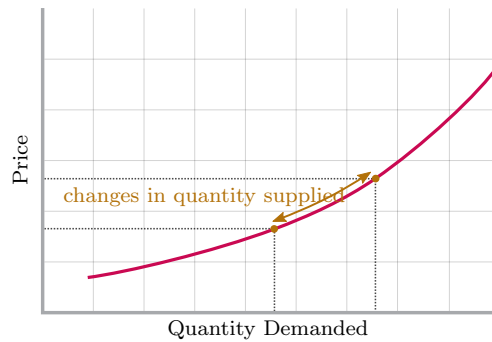


Figure 8: Changes in quantity supplied

Determinants of Supply

- Costs of production: the cheaper it is to produce, the greater will be the supply. This can be divided into:
 - Resource prices: the price of resources used to produce a product (negative correlation).
 - Technology: (positive correlation).
 - Taxes and subsidies: taxes (negative correlation) and subsidies (positive correlation).
- Prices of other goods: substitution in production (negative correlation).
- Producer Expectations: future prices, ...
- Number of sellers in the market: the more suppliers, the greater the supply.

Changes in Supply Movement of the entire supply curve. See fig. 9.

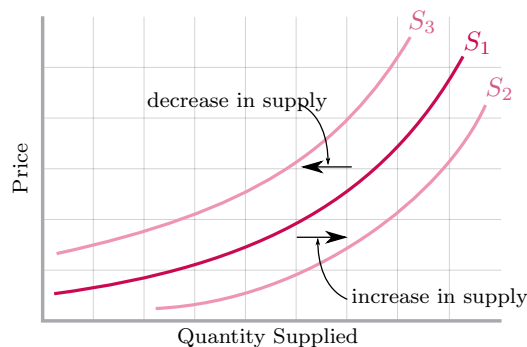


Figure 9: Changes in supply

3.4 Market Equilibrium

Equilibrium of Supply and Demand Price is determined where quantity supplied equals quantity demanded. P_E is the equilibrium price or market-clearing price, where the intentions of buyers and sellers match. See fig. 10.

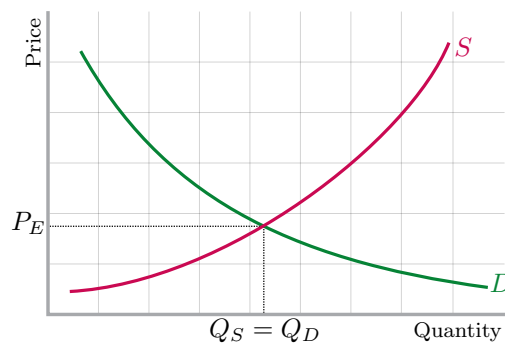


Figure 10: Equilibrium of Supply and Demand

Disequilibrium of Supply and Demand

- If the price is above the equilibrium price, we have an example of excess supply, or surplus. Surpluses drive prices down. See fig. 11.

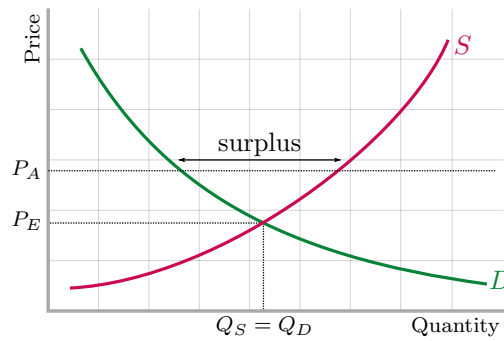


Figure 11: Excess supply

- If the price is below the equilibrium price, we have an example of excess demand, or shortage. Shortages drive prices up. See fig. 12.

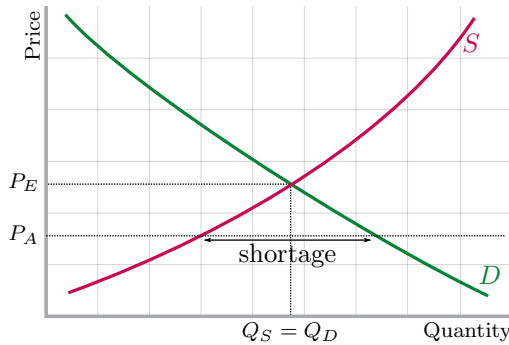


Figure 12: Excess demand

Market Equilibrium Application INSERT TABLE 3-8

Market Disequilibrium Application

(I) Labor Market

- Q_a : labor demand with minimum wage.
- Q_e : employment without minimum wage.
- Q_b : labor supply with minimum wage (laborers who want to work at minimum wage)

INSERT HANDMADE GRAPH

(II) Price Ceilings: Rent control (lessors cannot raise the price).

There is excess demand.

INSERT HANDMADE GRAPH

3.5 Changes in Supply and Demand

INSERT FIGURE 3.7

D increase:	$P \uparrow$	$Q \uparrow$
D decrease:	$P \downarrow$	$Q \downarrow$
S increase:	$P \downarrow$	$Q \uparrow$
S decrease:	$P \uparrow$	$Q \downarrow$

4 The Elasticity of Supply and Demand

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4.1 Price Elasticity of Demand

(A) Introduction

(B) Define

Price Elastic

Price Inelastic

(C) Elasticity of Demand Formula

$$E_d = \frac{\% \Delta Q_d}{\% \Delta P} = \frac{\frac{\Delta Q}{(Q_1 + Q_2)/2}}{\frac{\Delta P}{(P_1 + P_2)/2}}$$

(1) Rules

- When $E_d > 1 \rightarrow$ Elastic
- When $E_d < 1 \rightarrow$ Inelastic
- When $E_d = 1 \rightarrow$ Unit Elasticity

(2) Qualifications

- (a) Ignore Minus Sign
- (b) Midpoint Formula

(D) Application of Formula, e.g. Home Depot has a paint sale.

(1) Interior Wall Paint

	P	Q_d
Original Price	\$16	50 gals
Sale Price	\$12	100 gals

Find the Elasticity of Demand:

$$E_d = \frac{\frac{4}{\frac{50}{75}}}{\frac{3}{7}} = \frac{3}{7}.$$

(2) Porch Floor Paint

	P	Q_d
Original Price	\$16	20 gals
Sale Price	\$12	22 gals

Find the Elasticity of Demand:

$$E_d = \frac{\frac{4}{\frac{20}{21}}}{\frac{2}{3}} = 3.$$

(3) The Determinants of Price Elasticity of Demand

4.2 The Elasticity of Supply

(A) Introduction

(B) Define

(C) Supply Elasticity Formula

$$E_s = \frac{\% \Delta Q_s}{\% \Delta P} = \frac{\frac{\Delta Q}{(Q_1 + Q_2)/2}}{\frac{\Delta P}{(P_1 + P_2)/2}}$$

(1) Rules

- When $E_s > 1 \rightarrow$ supply is elastic

- When $E_s < 1 \rightarrow$ supply is inelastic
- When $E_s = 1 \rightarrow$ unit elasticity

(D) The Determinants of Price Elasticity of Supply

4.3 Supply and Demand Elasticity Applications

(A) Tax on Cigarettes: Inelastic Demand.

(B) What if Cigarettes are Elastic?

4.4 Income Elasticity of Demand

(A) Definition

$$E = \frac{\% \Delta \text{ in quantity demanded}}{\% \Delta \text{ in income}} = \frac{\frac{\Delta Q}{(Q_1 + Q_2)/2}}{\frac{\Delta I}{(I_1 + I_2)/2}}$$

(1) Normal Goods

(2) Inferior Goods