Lecture 1 Material
Key Economic Concepts and Intro to Supply and Demand

THEORETICAL PART

What Economics is About

The Economic Problem: What, How, Who **produce**? The resources to satisfy this problem are
Land (= natural resources), labor (= human resources), capital (=equipment and structures used to produce)
Economics is the study of how society manages its **scarce resources**. All resources are scarce to a certain extent. In market economies **these resources are allocated through the interaction of buyers and sellers**, households and firms, employers and employees, as well as policies implemented by governments.
Households = individuals purchase goods and services for final consumption
Economic activity = interaction between households and firms
Economy = all the production and exchange activities that take place
Scarcity = limitation of society's resources to satisfy the demand

"Ten Principles of Economics"

1. People face tradeoffs

Trade-off = loss pf the benefits from a decision to forego or sacrifice one option balanced against the benefits incurred from the choice made
→Efficiency (= getting the most possible) and equity (= distributing economic prosperity fairly among society): conflicting goals (but improving equality can lead to improvements in efficiency)

2. **Opportunity cost**
3. **Rational people think at the margin**
4. **People respond to incentives**
5. Trade can make everyone better off

Trade allows individuals, firms and countries to specialize in the activities they do best. Then they can trade with others who are also specializing and can improve their standard living as a result. But trade raise competition and competition in the labor market can cause unemployment.

6. Markets are usually a good way to organize economic activity

Market economy = economy that addresses the 3 key questions of the economic problem by allocating resources through the decentralized decisions of many firms and households as they interact in markets for goods and services. A pure market economy is without government intervention
Planned economic system = economic activity organized by central planners who decided how to deal with the 3 key questions, so more equitable outcome (communism)

7. Governments can sometimes improve market outcomes

Market failure = situation in which the market on its own fails to produce an efficient allocation of resources.
→ Externality = uncompensated positive/negative impact of a third party
→ Market Power = ability of a single economic agent to have substantial influence on market prices or output

8. A country's standard of living depends on its ability to produce goods and services

Economic growth = increase in the amount of goods and services in an economy over a period of time
Gross domestic product per capita = the market value of all goods and services produced within a country in a given period of time divided by the population of a country to give a per capita figure
Standard of living = refers to the amount of goods and services that can be purchased by population of a country
Productivity = the quantity of goods and services produced from each hour of worker or factor of production's time
Where workers can produce a large quantity of goods and services per unit of time, many people enjoy a high standard of living; in nations where workers are less productive, people endure a more meagre existence.
To boost living standards policy makers need to raise productivity by ensuring that workers are well educated and equipped.

9. Prices rise when the government prints too much money

Inflation = increase in the overall level of prices in the economy
Keeping inflation at a low level is a goal of policymakers. When a government creates large quantities of the nation's money, without any corresponding increase in output or productivity, the value of the money falls.

10. Society faces a short run tradeoff between inflation and unemployment

They are the standard principles that economists rely on. Among these principles, there are three that are considered key to the way economists think: **opportunity cost, incentives** and **marginal analysis**.

Opportunity cost = whatever must be given up to obtain some item, the value of the benefits sacrificed.
Opportunity cost of good A = Sacrifice of good B / Gain in good A
Economic cost = direct cost + opportunity cost.
Economists recognize that the cost of a good or service includes not only the money you part with to acquire it, but *also* the time involved in looking for it, learning how it works, and *what else you would have been doing your time*.

Example: Economic Cost of the LIUC degree:
Cost of tuition (direct cost) **+** lost income if you had gone directly to work rather than spent three years pursuing the degree (opportunity cost).
Then **economic cost of LIUC degree** = 6,000+6,000+6,000 + 15,000+16,000+17,000 = **66,000 euros**.
Actually, this calculation is not quite correct because you need to **discount** euros spent or earned in future years. If your discount rate (rate at which you are willing to trade euros next year for euros today) = 5%, then **economic cost of LIUC degree** = $6,000 + 6,000/(1.05) + 6,000/(1.05)^2 + 15,000 + 16,000/(1.05) + 17,000/(1.05)^2$ = **62,814 euros.**
To decide **whether it is worthwhile to pursue the degree**, we need to compare the sum of the discounted stream of costs/income (called the **net present value or NPV**) with and without the degree. To do so, we must make an assumption regarding how much you expect to earn with the degree. Assume that you believe that the LIUC degree will allow you to get a more interesting and better-paying job than without the degree: 25,000 euros/year with a raise of 2,000 euros/year thereafter.
Based on the first 10 years, you would conclude that **the degree is not worth pursuing** since the NPV is lower with the degree than without the degree. However, if you take a 20 year perspective, **the degree is worth pursuing** since the NPV with the degree is higher than without the degree.
Why may this approach be inaccurate or incomplete?

a. Future salaries are difficult to estimate with accuracy ex ante
b. You may decide to retire at a different age with or without the degree
c. There may be non monetary rewards to pursuing the degree: more interesting and rewarding job/life/colleagues.

Incentives:

Economic agents respond to incentives. This principle is important in explaining behavior: behavior changes when costs or benefits changes. Identifying and understanding the effect of incentives on the behavior of market participants (buyers, sellers, firms and governments) is extremely important for economic analysis and for effective government regulation.
Examples:
(i) If we want to promote investment in more **fuel efficient cars**: we can offer positive incentives (tax rebates or special traffic lanes for fuel efficient cars) or negative incentives (increase tax on gasoline, luxury tax on Hummers.)
(ii) If we want to improve worker efficiency we can offer various types of incentives: pay for performance (higher salaries, bonuses), promotions/demotions, benefits (amenities such as cars, first class travel, low interest loans), equity in the firm (stock option plans).
(iii) As we will see later in the course, **cartel-like behavior** is very common in many industries and countries even though it is illegal because the profit incentives associated with it are so high. Government regulators need to take this into account in investigating and fining cartels.

POSITIVE/NEGATIVE INCENTIVE

Positive incentives are used to give someone what they want. These are "rewards" like a bonus, candy, or gold star. **Negative incentives** give people what they do not want. These often appear in the form of a "punishment" to push them to do the opposite not to get the punishment.
Unintended consequences occur when an incentive result in the opposite situation than expected.

Marginal Analysis:

Marginal refers to the focus on the cost or benefit of the next unit or individual. Companies use **marginal** analysis as a decision-making tool to help them maximize their potential profits.
Rationale decisions are made at the margin by **comparing the marginal (or additional) cost with the marginal benefit** associated with a decision or action.
Marginal changes = small incremental adjustments to a plan of action
Economic Agents = individual/firm/organization that has an impact in some way on economy

→Employment
P = price of good
MPL = marginal product of labor

Number of Workers	Number of Skateboards Produced	MPL	MPL * P
1	12	12	$360
2	21	9	$270
3	29	8	$240
4	36	7	$210
5	42	6	$180

Price/skateboard = $30

= additional output (in units) from an additional worker/day
WL = wage in $ of additional worker/day
The firm should hire an additional worker if MPL x P > WL
La produttività **marginale del lavoro**, in economia, misura l'incremento di **prodotto** dovuto ad un'unità aggiuntiva di forza **lavoro**.

→Production

P = price
Q = quantity
C(Q) = cost of producing Q
R(Q) = revenue from Q = PxQ
The firm should produce an additional unit if Marginal revenue MR(Q) > marginal cost MC(Q)
Il **ricavo marginale** non è il **ricavo** ottenuto dalla vendita dell'ultima unità venduta (prezzo). È l'incremento del **ricavo** totale generato dalla vendita dell'ultima unità venduta.
Il **costo marginale** unitario corrisponde al **costo** di un'unità aggiuntiva prodotta

→Consumption

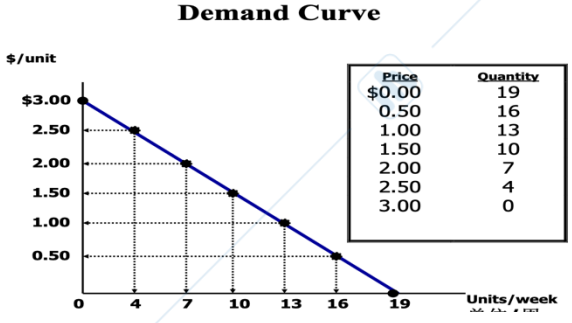
U(x) = utility from consuming x units
P = price of good
The consumer should consume an additional unit x if Marginal utility MU(x) > price
l'**utilità marginale** è la quantità di soddisfazione che fornisce ogni singola dose di un bene consumato.

Economists approach their field of study using a fairly scientific approach: i.e. gathering data, making assumptions, developing theories, testing those theories, etc. So, **theories, assumptions** and **models** are very important.
The value of an economic model depends on how good the tools are that go into building it (i.e. the data and the structure). But remember always that it is a model, not reality.
Two general good rules for models:
(1) **garbage in ⇒ garbage out**: In computer science, **garbage in, garbage out** is the concept that flawed, or nonsense input data produces nonsense output or "garbage".
The principle also applies more generally to all analysis and logic, in that arguments are unsound if their premises are flawed.
(2) **always have some idea of the direction you expect the results to go in**. If you get what seem to be strange results, the reason may be that: the model is not very good; the data is not very good; you do not have good enough insight into the underlying reality that you are trying to model; the underlying reality may not be amenable to modeling.

THE MARKET: **SUPPLY** & **DEMAND**

Competitive market = a market in which there are many buyers and sellers so that each has negligible impact on the market price.
Buyers make their decision based on the utility (or satisfaction) they gain from consumption, and in doing so are independent of the decision of suppliers.

DEMAND = a consumer's desire to purchase goods and services and willingness to pay a price for a specific good or service.
Market demand = sum of all individual demands for a particular good.
Demand is determined by many things but one of the main is price.
Demand is inversely related to the price because it falls as the price rises and viceversa (P↑ D↓; P↓ D↑)
Assuming that a product is sold for free there will always be a certain quantity demanded and it isn't infinite. The higher the price, the lower the demand and in the contrary: at a given price the demand is 0 (→ reservation price), the product is too expensive.
The demand curve shows the relationship between the quantity Demanded and the price.



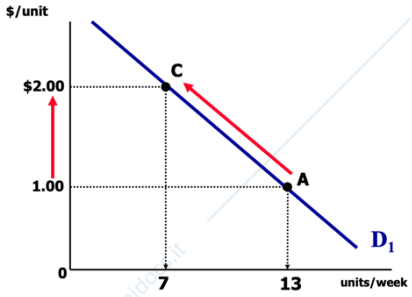
Determinants of Demand

Market Price, Consumer income, Prices of related goods, Tastes, Expectations.

A change in the price of a good which results in a change in quantity demanded, is represented graphically as a movement along the demand curve. If the price of a good falls, this will lead to an **increase in demand**, 2 reasons:

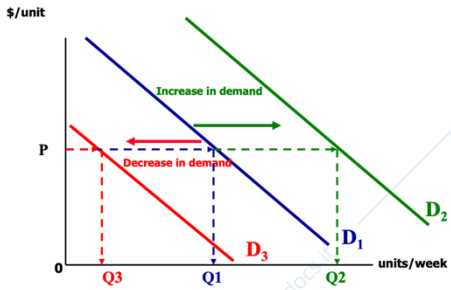
1. Income Effect if income stays the same, a fall in the price will result in the ability to afford a greater quantity of a good. In other words, the real income (=what a given amount of money can buy at a point in time) increases.
2. Substitution effect: if a price of a good falls compared to other products, consumers will choose to substitute the other products with the cheaper good

Movements along the demand curve



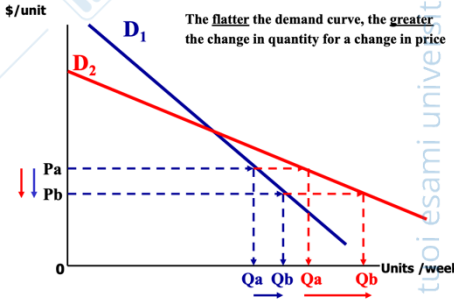
When the demand changes, the price too So we move along the curve (A to C).

Shifts in the demand curve



When at any given price the demand is higher or lower. So something happens and the demand is less/more but the price stays the same.

Tilts in the demand curve (change in slope)

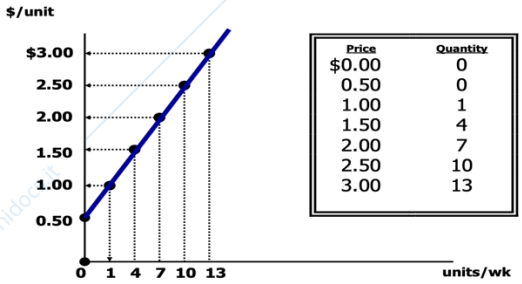


When there's a change in the inclination, so the demand is more responsive to reduction in Price which incrises too. When the price drops the demand is higher proportionately to before.

SUPPLY = amount of a specific good or service that is available to consumers, so the amount of a good that suppliers are willing and able to produce and sell at different prices

The supply curve shows the relationship between
The quantity producers are willing to produce and sell
At any given price. Assuming that the price is 0 they don't want to sell
Any, but even if the price is x they don't want to sell: if the price does
Not cover the costs producers won't sell it.
Seller pov: the higher the price, the more they want to sell that product because it's profitable.
The quantity supplied is positively related to the price of the good.
In deed the supply curve goes upwards, from left to right.
Exception: could be markets in which the higher the price, the higher the demand; eg: luxury fashion.

Supply Curve



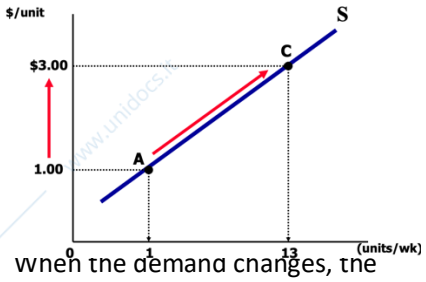
Price	Quantity
$0.00	0
0.50	0
1.00	1
1.50	4
2.00	7
2.50	10
3.00	13

Determinants of supply

Market price, Consumer income, Prices of related goods, Tastes, Expectations, Technology (increases production),
Natural and social factors: whether, natural disasters, have an influence on the cost of inputs into production;
Input prices: when a price of inputs rises, the production of that good is less profitable and the firm supply less. A fall in input prices is considered an incentive. So, the supply of a good is negatively related to the price of the inputs used to make the good;
Number of sellers

Any change that arises quantity supplied at every price shifts the supply curve to the right and it is called increase in supply. Any change that reduces the quantity supplied at every price shifts the supply curve to the left and it is called decrease in supply

Movements along the supply curve



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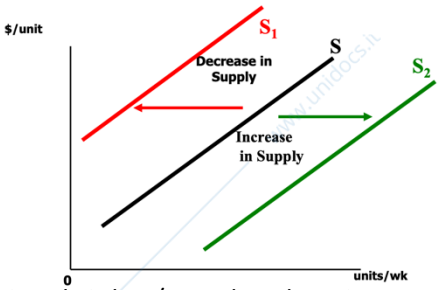
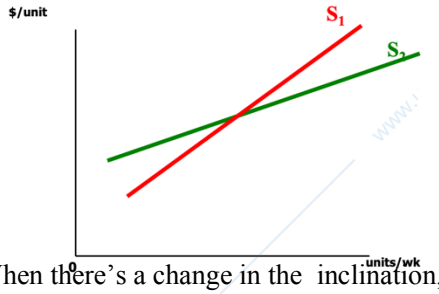
Shifts in the Supply Curve



Supply is less/more but the price stays the same

Tilts in the Supply Curve



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SUPPLY and DEMAND TOGETHER

The relationship between supply and demand exerts force on price. Market equilibrium occurs when the amount consumers wish to buy at a particular price is the same as the amount sellers are willing to offer at that price.
Equilibrium market price = price at which Qd = Qs → *market clearing price* because everyone is satisfied
Equilibrium quantity = quantity bought and sold at the equilibrium price
When the market is not in equilibrium because of shifts the possible scenarios can be:

- Surplus

= a situation in which the quantity supplied is greater than the quantity demanded at the current market price
As a consequence, sellers find their stocks increasing, so they respond cutting prices. As price falls some consumers are persuaded to buy more and so there is a movement along the demand curve. Prices continue to fall until a new equilibrium

- Shortage

= a situation in which quantity demanded is greater than quantity supplied at the current market price
As a consequence, sellers raise their prices without losing sales. As the price rises, some buyers will stop buying and the quantity demanded falls (movement along demand curve). Rising prices encourage some sellers to produce more because it is profitable. This process will continue until the market moves towards equilibrium.