

What is Economics About

What is Economics about?

- Economics is about human well-being (what determines how well off people are and what might be done to improve their well-being)
- Economists think of material well-being as depending on the consumption of 'goods and services'. (food, health, housing etc)
- Goods and services we consume are produced using resources
- Time and human capital; physical and financial assets; natural resources all contribute to the production of goods and services

The fundamental problem - the Scarcity of resources

- Not sufficient resources to satisfy people's wants
- Scarcity means we need to make decisions about how to use our available resources
- Economics = Study of economic activity: Decisions about how to use our resources

What is the Economic way of thinking?

- Economists develop theories to describe and understand economic activity
- A theory consists of:
 - a. A model of the situation we are interested in studying; and
 - b. Hypotheses or predictions derived from that model
- Model = Essential features of situation being studied. 'A map is valuable precisely because it simplifies and omits.'

The core of economic theories:

- Decision-makers are rational
- Rational =
 - a. Have a well-defined objective; and
 - b. Make choices that are consistent with achieving that objective

The fundamental economic theory: How we make decisions

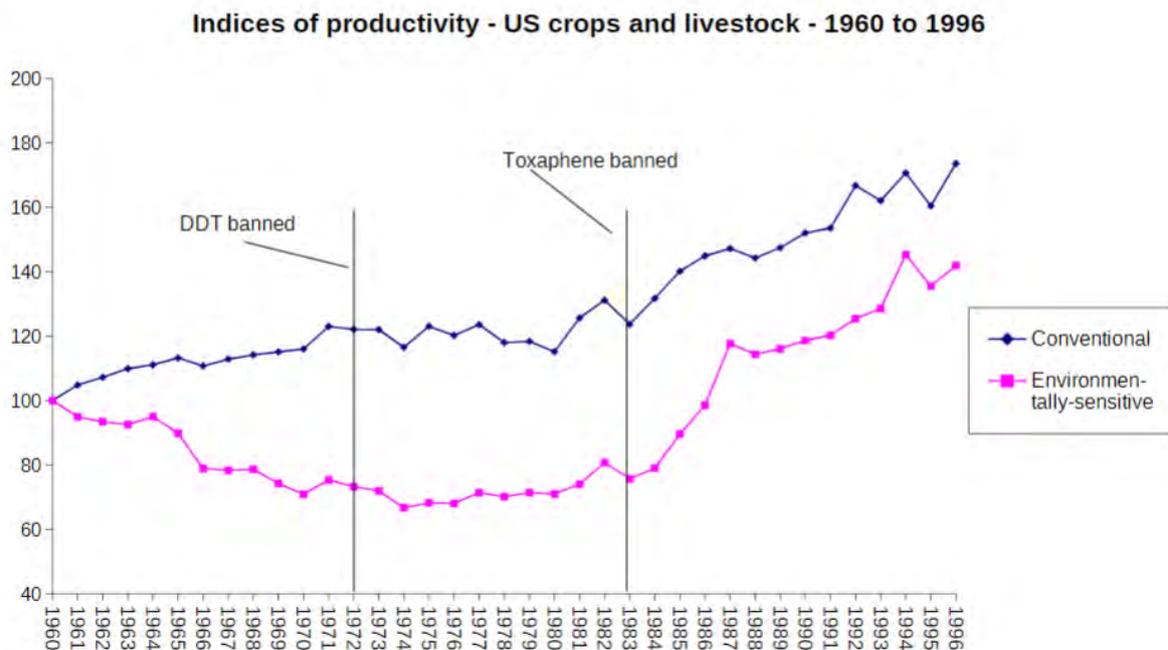
- Scarce resources > Individuals and organisations in a society must make choices about use of resources
- Any action (use of resources) will be associated with benefits and costs
- The best (optimal) action for a rational decision-maker to choose will maximise TOTAL NET GAIN
- Total net gain = Total benefit minus Total cost

How to measure cost: The principle of opportunity cost

- Resources used in taking that action are not available for alternative use
- Measure of cost of an action should be in terms of resources used
- Opportunity cost of an action = Value of resources used in taking that action in their next best alternative use
- Sunk cost = Resources used before making a choice about an action [Not included in opportunity cost]

Resources used	Value in next best use – In Monetary units
CSS Ball <ul style="list-style-type: none"> • Time – eg. queuing and attending event • Money – eg. cost of ticket 	Eg. Work in part-time job for 6 hours: $6 \times \$20\text{ph} = \120 ; Sleep Value in terms of monetary cost – eg. ticket = $\$150 \Rightarrow \150
Football match <ul style="list-style-type: none"> • Time – eg. travelling to and attending event • Money – eg., cost of transport; food(?) • Do not include cost of season ticket – SUNK COST 	Value in same way as above Value in terms of monetary cost

- Productivity = Outputs/Inputs (that is, amount of output per unit' of resources used to produce that output)



Measuring benefits

- Measure benefits of an action in terms of a decision-maker's objective
- Example: Firm has objective of maximising profits. Must decide whether to open a new mine >
- Benefits = Increase in revenue from extra mineral sales
- Opportunity costs = Extra costs from developing and operating the mine
- Total net gain = Total Benefits - Total Opportunity Costs = Profits

Making an optimal decision

- The optimal quantity/level of an activity for a rational decision-maker to choose is the action that maximizes Total Net Gain

- We use the 'benefit-cost principle' or 'marginal rule' to choose actions to maximise Total Net Gain
- Types of decisions a) Yes/No b) What quantity to do?

Definitions

Marginal Benefit (MB) = Addition to Total Benefit by doing, or increasing by one unit the level of, an activity

Marginal Cost (MC) = Addition to Total Cost by doing, or increasing by one unit the level of, an activity

Benefit/cost principle (Marginal Rule) for finding the optimal quantity/level of an activity:

- Do an activity (or units of an activity) for which $MB \geq MC$
- Do not do an activity (or units of an activity) for which $MB < MC$
- Summary: Should take an action only if additional benefits outweigh additional costs

MB/MC with calculus

- Total net gain: $TNG(x) = TB(x) - TC(x)$
- Derive optimal value of x by taking derivative of NG with respect to x and set equal to zero:
 - $\Rightarrow \frac{\partial TNG(x)}{\partial x} = \frac{\partial TB(x)}{\partial x} - \frac{\partial TC(x)}{\partial x} = 0$
 - $\Leftrightarrow \frac{\partial TNG(x)}{\partial x} = MB(x) - MC(x) = 0$
- $TB(x) = 10x$
- $TC(x) = x^2$
- $TNG(x) = 10x - x^2$
- Taking a derivative: $f(x) = ax^n \Rightarrow \frac{\partial f(x)}{\partial x} = nax^{n-1}$
- $\frac{\partial TB(x)}{\partial x} = 10; \frac{\partial TC(x)}{\partial x} = 2x$
- $\Rightarrow \frac{\partial TNG(x)}{\partial(x)} = 10 - 2x = 0; \Rightarrow x^* = 5$

The role of incentives

- In economic theories individuals make decisions based on the relative benefits and cost of alternative actions

- When the benefits or costs of different actions alter, it is to be expected that rational decision-makers will change the actions they choose
- This is what we call 'responding to incentives'

Demand and Supply

Introduction to Markets

- A market is where trade between groups of buyers and sellers of an item takes place
- How does trade occur?
- (i) Buyer: should I buy?
- MB = Benefit from an item (b); MC = price paid for item (p)
- (ii) Seller: should I sell?
- MB = price received (p); MC = opportunity cost of supply of item (cost)
- The buyer and seller decide whether to trade using the benefit-cost approach:

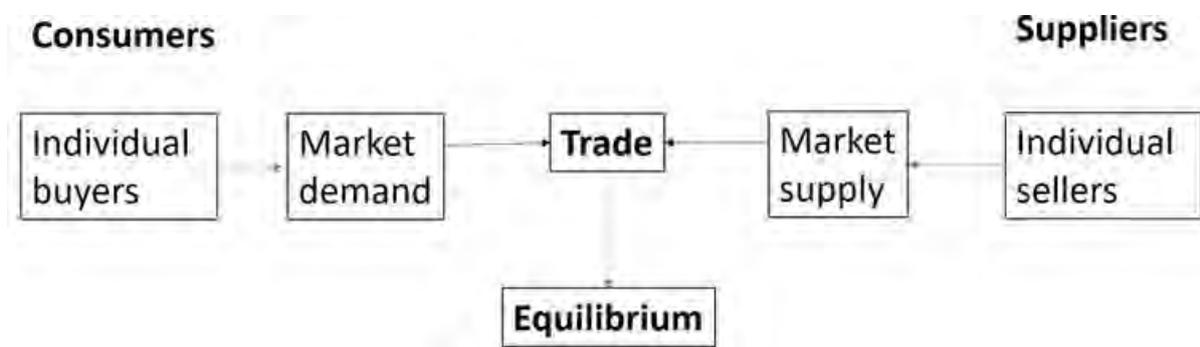
	Benefit	Cost	Willing to trade
Buyer	B	P	$B \geq P$
Seller	P	C	$P \geq C$

Types of markets

	Product	Labour	Financial
Price	Price per unit of good	Wage rate per hour	Price per share
Quantity	Number of units of good traded	Hours of labour time traded	Quantity of shares traded

Perfectly Competitive Markets

- Characteristics of a PC market
 - Identical good traded by all buyers and sellers
 - Many buyers and sellers (price-takers)
- Why study?
 - Can use to study markets with high degree of competition (Applicable to wide range of markets)
 - Can introduce other main economic concepts
- Our model of a PC market



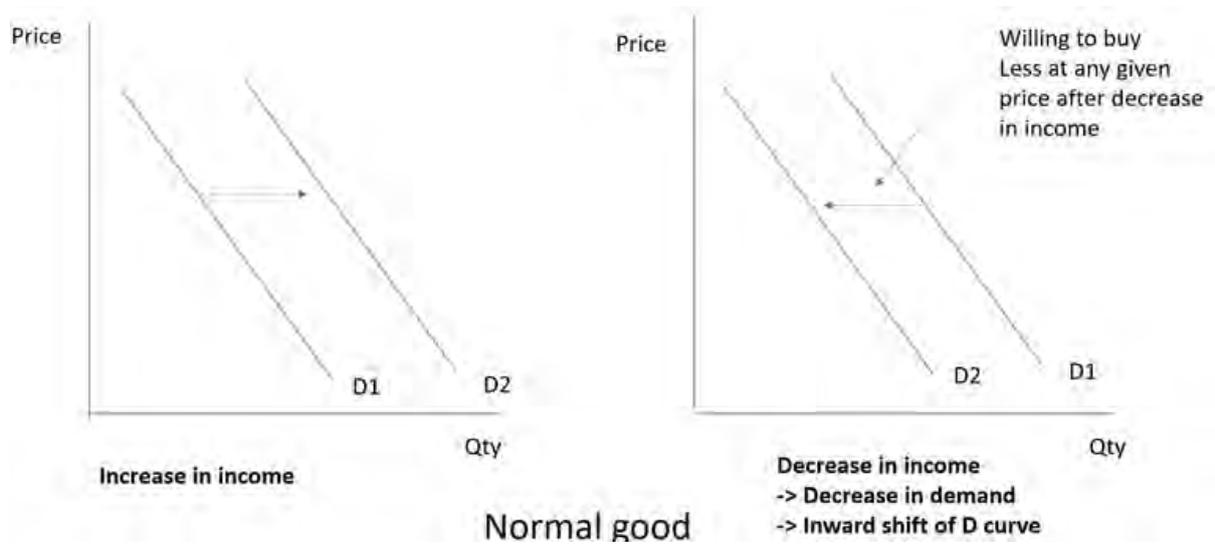
Market Demand

- Distinguish between effect on demand of:
 - Change in price
 - Changes in other factors
- Market demand and price

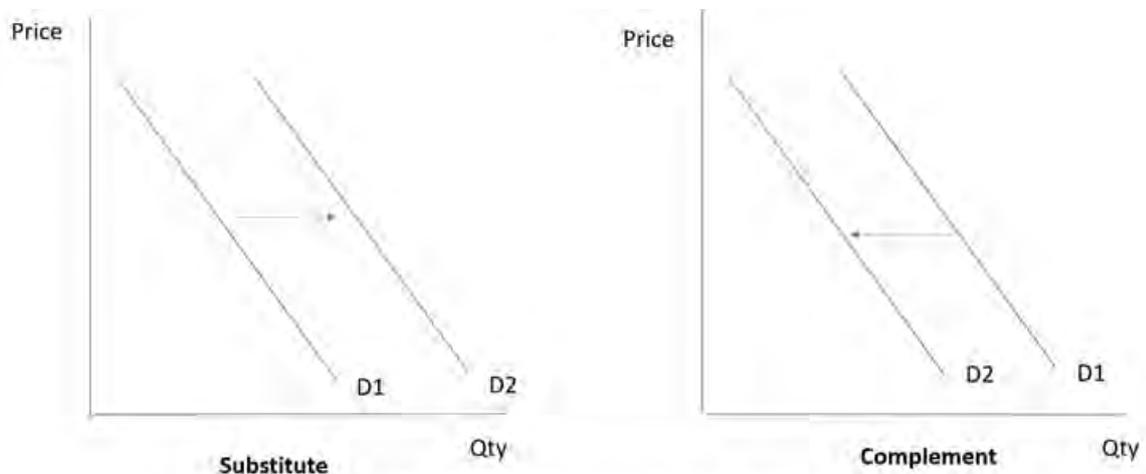
- Law of demand: When price of a good increases (decreases), the quantity demanded of the good decreases (increases) ceteris paribus
- Terminology: Change in price > Change in quantity demanded (In graph = Movement along demand curve)

Other factors that affect market demand

- a. Income
- Normal good (Demand and income move in the same direction)
 - Inferior good (Demand and income move in opposite direction)
 - Terminology: Change in income > Change in demand (In graph = Shift in demand curve)



- b. Price of other goods
- Substitute: Goods are used for similar purpose or to satisfy same want. Two goods are substitutes where increase (decrease) in price of one good causes increases (decrease) in demand for other good.
 - Complement: Goods are consumed together or used together in production. Two goods are complements where increase (decrease) in price of one good causes decrease (increase) in demand for other good.



Effect of increase in price of another good

- c. Consumer tastes
 - e.g. 'For young hipsters and middle-aged sentimentalists alike, the resurgence of vinyl is a cause for celebration'.
- d. (Non-price) costs of consuming the good or service
 - e.g. Being able to buy on the internet; Time costs of security checks associated with air travel
- e. Price expectations
 - Buying today versus tomorrow: Introduction of GST in Australia in July 2001
- f. Number of buyers

Market Supply

- Distinguish between effect on supply of:
 - a. Change in price;
 - b. Changes in other factors

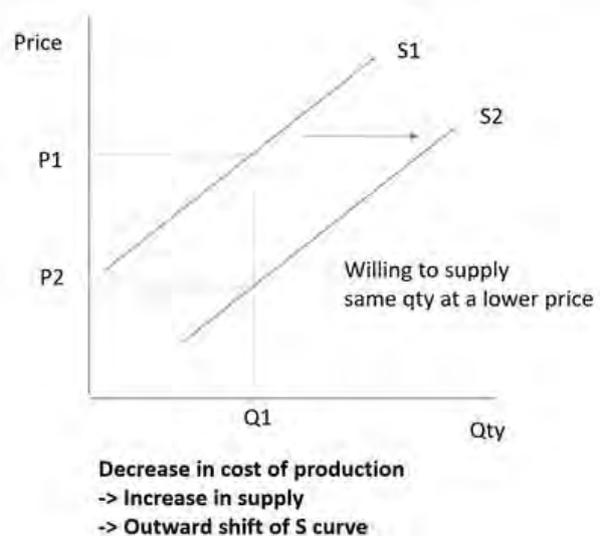
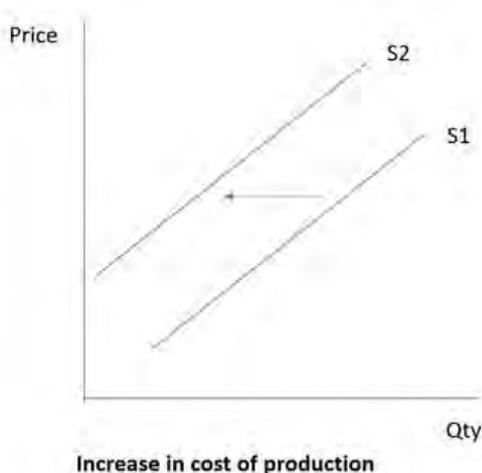
Market supply and price

- Law of supply: When a price of a good increases (decreases), the quantity supplied of the good increases (decreases) ceteris paribus
- Terminology: Change in price > Change in quantity supplied (In graph = movement along the supply curve)

Other factors that affect market supply

- a. Cost of production (Cost of inputs; Efficiency of production)
 - e.g. Increase in price of inputs/Decrease in efficiency of production (Need more inputs to produce given amount of output) > Increase in cost of production
 - Terminology: Change in cost of production > Change in supply (In graph = shift in supply curve).

Effects of a change in cost of production



- b. Price expectations
 - 'Gas companies have been accused of leaving gas in the ground that could be profitably sold today, so they can sell the gas more expensively in the future.'

- c. Weather
 - 'The severe drought has smashed crop production in Australia's eastern states'.
- d. Number of suppliers

Market Equilibrium

- 'Assume outcome from trade can be characterised as market equilibrium'.
- Definition of equilibrium: Price and quantity traded in a market are such that quantity demanded of a good equals quantity supplied.
- Intersection of the demand and supply curves

Solving for equilibrium algebraically

- Market equilibrium: Price and quantity traded are such $QD = QS$
 - $QD = 120 - 20P$
 - $QS = 20P$
 - Equilibrium condition:
 - $QD = QS$
 - $\Rightarrow 120 - 20P = 20P$
 - $\Rightarrow P^* = 3; Q^* = 60$

Market Equilibrium an Comparative Statics

	Change in	Causes a..	Graphically	Direction of change
Demand	Price	Change in quantity demanded	Movement along demand curve	Law of demand: Negative relation
	Other determinants	Change in demand	Shift in demand curve	
		Increase		Outward
		Decrease		Inward
Supply	Price	Change in quantity supplied	Movement along supply curve	Law of supply: Positive relation
	Other determinants	Change in supply	Shift in supply curve	
		Increase		Outward
		Decrease		Inward

Main objective: Understanding why price and quantity traded in a market can vary

Key learning points:

1. How changes in demand and supply affect equilibrium/market outcomes?
2. Use equilibrium to characterise market outcomes
3. Study a change in market outcomes as a change in equilibrium
4. Application of models to understand outcomes in varying situations

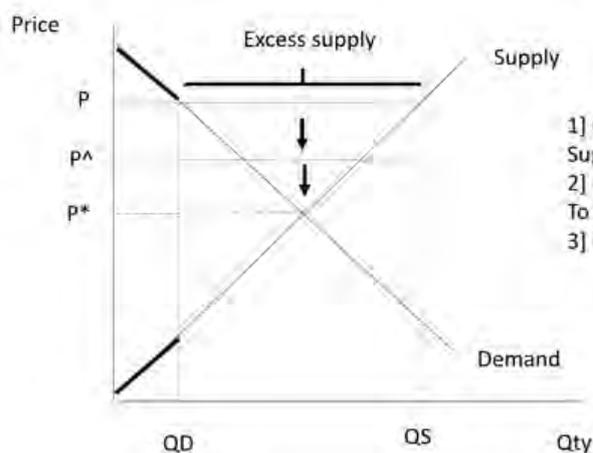
Market outcome = Equilibrium?

- We want to know what outcome (price and quantity traded) will occur in a market
- We use the concept of equilibrium (P^* ; Q^*) because it is our best prediction of the outcome
- Where price does not equal P^* , competitive processes will cause price to converge to P^*
- Where price equals P^* , price will be stable

What happens when there is excess supply?

- $P > P^*$, excess supply: $QD < QS$ and Quantity traded = QD
- Some sellers are rationed out of the market, hence are willing to offer to sell at a lower price than P to attract business. There are buyers who will accept to trade at that price resulting in all buyers wanting to buy at a lower price. This forces the price down.
- Can make the same argument for $P > P^*$
- Only at P^* will there be no scope for any supplier to profitably offer to sell at a lower price

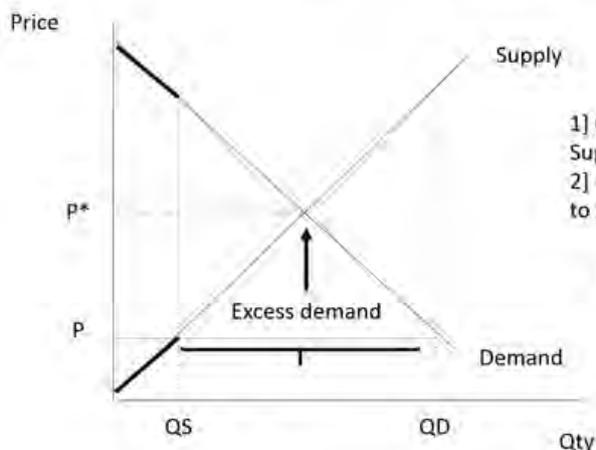
• Excess supply: Price $> P^*$ $\Rightarrow QD < QS$



- 1] Only the shaded sections of Demand and Supply curves are able to trade when Price = P (Excess supply);
- 2] Incentive for sellers to offer to sell at P^\wedge \rightarrow Shifts price down To P^\wedge ;
- 3] Process of price adjustment will continue until $P = P^*$.

Key point: Excess supply \rightarrow Decrease price to P^*

• Excess demand: Price $< P^*$ $\Rightarrow QD > QS$



- 1] Only the shaded sections of Demand and Supply curves are able to trade when Price = P (Excess demand);
- 2] Incentive for buyers who are not able to buy to offer to trade at a higher price \rightarrow Price will adjust upwards to P^*

Key point: Excess demand \rightarrow Increase price to P^*

Effects of changes in demand and/or supply