CHAPTER 2: The Market: Demand & Supply

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THE ABOUT

CHAPTER ANALYSIS

MASTERY

- Understanding the interaction of demand and supply
- How PED and PES affects various economic agents
- Must know how Determinants affect DD,SS,PED,PES
- Government Intervention

EXAM

- Commonly tested in Essays
- Important to get your fundamentals right
- Concept is tested in CSQ as well
- Cleary identifying the Demand and Supply factor

WEIGHTAGE

- Heavy overall weightage

KEY CONCEPT

Demand & Supply
Price Elasticities
Government Intervention

Demand

Different quantities of good or service that consumers are willing and able to buy at various price levels over a given period of time,Ceteris Paribus.

Non-price determinant Factors			
Price of related goods	• **Substitutes** - ↑ in price of X → ↓ in quantity demanded of X - X & Y are substitutes because they satisfy the same consumer wants - Price of X ↑→ Consumers switch to Y → Demand of Y ↑ • **Complements** - When price of X ↓ → Quantity demanded of X ↑ - X & Y are complements because they can only be enjoyed with each other - Demand for Y ↑	**Taste & preference**	• Influence the desirability NOT willingness to pay for the good • Result of fashion/ Fad/ Advertising → create want
Demographic	• Population ↑ → demand ↑ • Age composition: - cities – populated with young people - countryside – populated with older people	**Expectation**	• Increased optimism about future economic condition → increase demand • Expectation of a fall in future price of Good X → Demand for good X decreases
Weather	• Change in weather that requires less/more of a good to be bought • Eg: Winter decreasing the demand for portable fan • Eg: Winter increasing demand for coats	**Government Policies**	• Eg: Compulsory vaccinations → Rise in Demand for healthcare services
		Income	• **Normal good:** Demand positively related to change in income • **Inferior good:** Demand negatively related to change in income as they are basic necessities. • As income increases, basic necessity is fulfilled → seek greater quality of life → Demand for normal goods/luxury goods increase

Polly Doesn't Want To Eat GInger

Supply

Various quantities of goods or services producers are willing and able to offer for sale at various prices over a period of time, ceteris paribus.

Non-price determinant Factors

Price of Related Goods	**Competitive supply:** • 2 goods that utilise the same resources in production • Px of Good X ↑→ Quantity supplied of X ↑ • To ↑ production of X, resources used in production of Y have to be diverted to the production of X → supply of Y ↓ **Joint supply:** • Goods X and Y are jointly produced • Px of Good X ↑ → Quantity supplied of X ↑ • Supply of Y ↑	**Supply Shock**	• Unexpected factors beyond human control such as droughts, floods etc • Affect primary products such as crops → SS of G&S ↓
Number of Producers	• Number of Producers ↑ → SS ↑	**Cost of Production**	**↓ Wage, price of raw materials:** • COP ↓ → more willing and able to supply → SS ↑ **State of Technology:** • New and effective method of production → unit COP ↓ → ↑ SS **↑ Efficiency**: • lower unit cost by improving productivity → utilise resources more efficiently allow more products produced with the same amount of input. → ↑ SS **Tax/Subsidies**: • Eg: ↓ Tax → ↓ unit COP → ↑ Production of goods since now profits is higher, Ceteris Paribus. → ↑ SS
Expectation	• Producers expect prices of good X to ↑ → delay selling good X now • So that they can sell the same goods at higher price in future • ↓ Current SS		

PED

Measures degree of responsiveness of quantity demanded of a good to changes in its own price, ceteris paribus.

$$\text{PED} = \frac{\%\ change\ in\ quantity\ demanded\ of\ good\ A}{\%\ change\ in\ price\ of\ good\ A}$$

Determinants	
Degree of Necessity	**Essential goods:** • High degree of necessity as consumption cannot be delayed in order to sustain basic quality of life → **price inelastic in demand** **Habitual goods:** • Due to addiction/habit → difficult to cut down on consumption/change consumption pattern • In response to price change → **price inelastic in demand**
Income Proportion	If high proportion of income is spent on a good → consumers have greater difficulty paying for it • ∴ ↑ Price → ↓ Consumption → **Price Elastic in Demand**
Time Period	• When price ↑ → consumers require time to adjust consumption patterns or find alternatives ➢ In the mean time → consumers will continue consuming good → **price inelastic in demand** ➢ In the **long-run** → good will become **price elastic in demand** as consumers can adjust consumption patterns
Availability of Substitutes	High quantity and closeness of substitutes →consumers switch to consuming cheaper alternatives when price increase → **more price elastic demand**

Don't Invite Trouble Ah!

PES

Measures the Degree of responsiveness of quantity supplied of a good to changes in its own price, ceteris paribus.

$$\text{PES} = \frac{\%\ change\ in\ quantity\ supplied\ of\ good\ A}{\%\ change\ in\ price\ of\ good\ A}$$

Determinants	
Time Period	• In the long-run: **price elastic in demand** due to time given to adjust to change in price
Inventory	**Ease of storing products yet to be sold** when demand ↑ (price ↑) → firms will be able to respond to a rise in demand and price quickly → Able to supply these stocks onto the market → **Price elastic in demand**
Nature of Good	Firms produce range of goods that can switch factors due to similarity easily → high degree of mobility of factors • If price of Good X ↑ → producers can switch production from Y to X to ease the temporary strain on existing resources on X plant → **Price elastic in supply** **Gestation period:** • Primary products have a relatively long gestation period • when price ↑ → producers unable to respond to price change immediately • For primary products with **price inelastic supply**, ↑ demand → huge increase in price • Government can implement buffer stock schemes to increase supply → stabilise prices
Spare capacity	Existence of unused capacity → variable inputs are readily available → able to increase production quickly in response to increase in price → **Price Elastic in Supply**

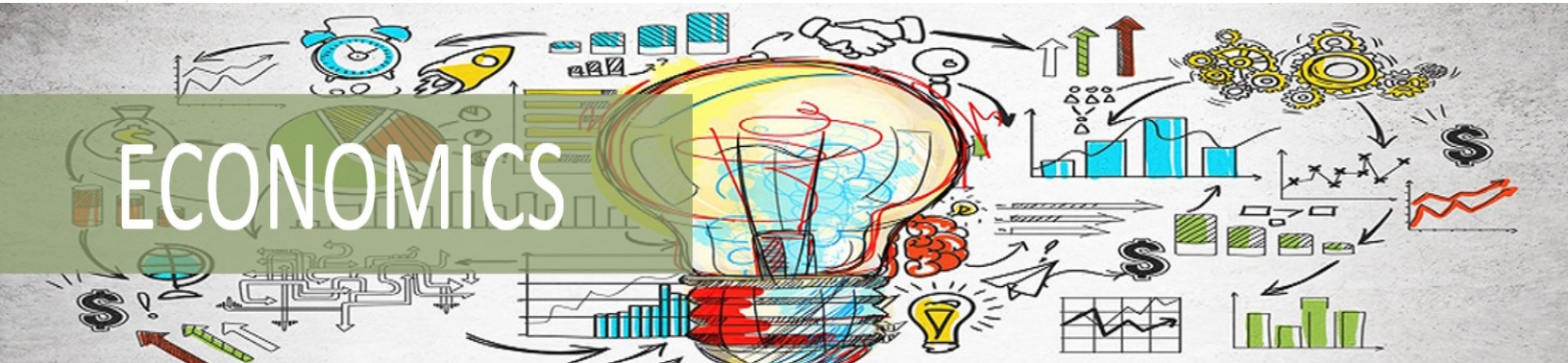
TINS

YED

Measures the degree of responsiveness of the demand for a good to a change in income, ceteris paribus.

$$\text{YED} = \frac{\%\ change\ in\ quantity\ demanded\ of\ a\ good}{\%\ change\ in\ income}$$

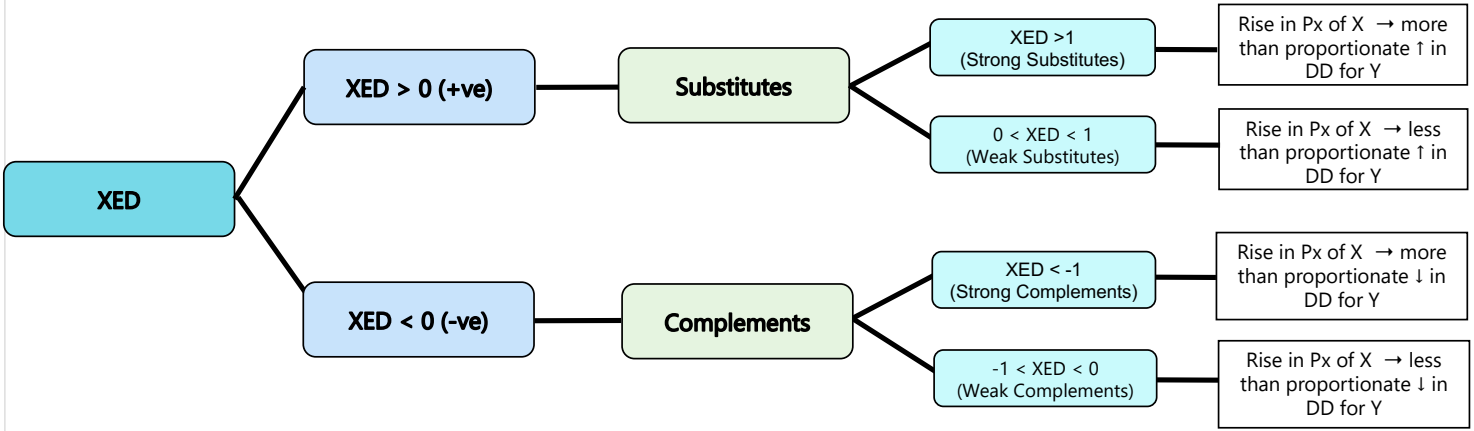
- YED
  - YED > 0 → Normal Good
    - Luxury (YED>1) → Rise in Px of Y → more than proportionate ↑ in DD for good
    - Necessities (0<YED<1) → Rise in Px of Y → less than proportionate ↑ in DD for good
  - YED < 0 → Inferior Good



XED

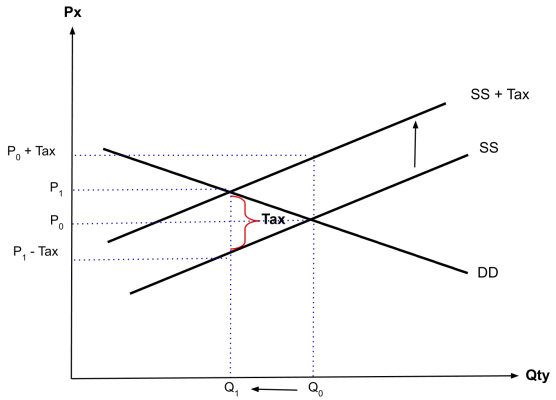
Measures the degree of responsiveness of the demand for a good X to a change in Price of Good Y, ceteris paribus.

$$\text{XED} = \frac{\%\ change\ in\ quantity\ demanded\ of\ good\ X}{\%\ change\ in\ price\ of\ Good\ Y}$$



GOVERNMENT INTERVENTION

TAX

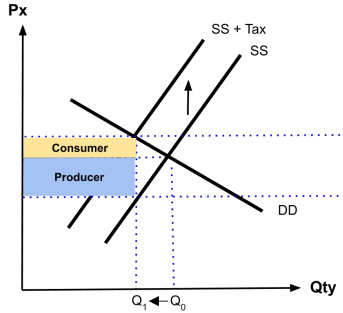


Effect of tax is to:

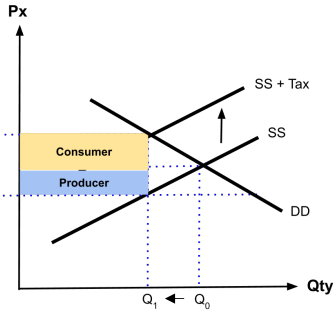
- Raise equilibrium price
- Reduce quantity exchanged

Tax incidence:

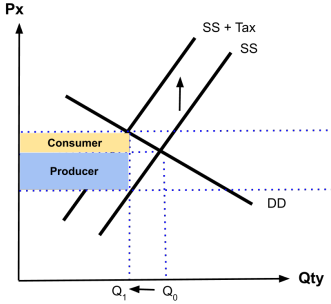
- Division of a tax between the buyer and producer.



|PED| < 1
Greater proportion of tax is borne by consumers



|PED| > 1:
Greater proportion of tax is borne by producers



PES < 1
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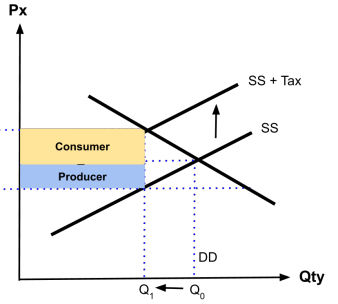
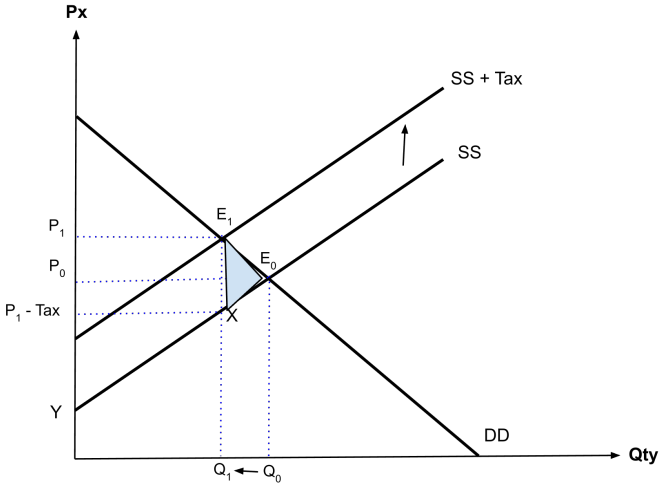


PES > 1:
Greater proportion of tax is borne by consumers

GOVERNMENT INTERVENTION

DEADWEIGHT LOSS



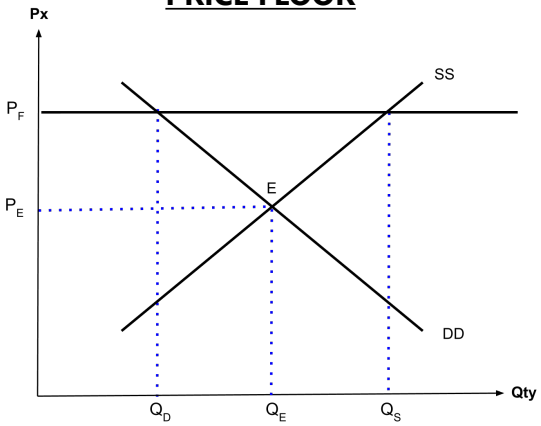
Loss of consumer surplus: P1E1E0P0
loss of producer welfare: P0E0X(P1-tax)
Loss of consumer and producer surplus is mitigated by gain in government tax revenue = P1E1X(P1-tax)
However, there is deadweight welfare loss of E1E0X.

GOVERNMENT INTERVENTION

QUOTA	SUBSIDY
Definition: Measure to control quantity of goods exchanged in a market.	***PROS*** • Producer's income is raised • Consumers enjoy lower price and increased quantity exchanged
	CONS • Additional resources have to be allocated to subsidized industries • Distort the efficient allocation of resources and encourage wasteful spending leading to DWL • Firms have no incentive to maximise efficiency and reduce wasteful spending • Strain on government budget: funds taken from tax revenue ⍰ government budget may end up in a deficit • Opportunity cost: limited tax funds could have been used for more important purposes i.e. education, healthcare, etc.

GOVERNMENT INTERVENTION

PRICE FLOOR



Definition:
Legally established minimum price above the market equilibrium price → prohibit producers from selling below stipulated price.

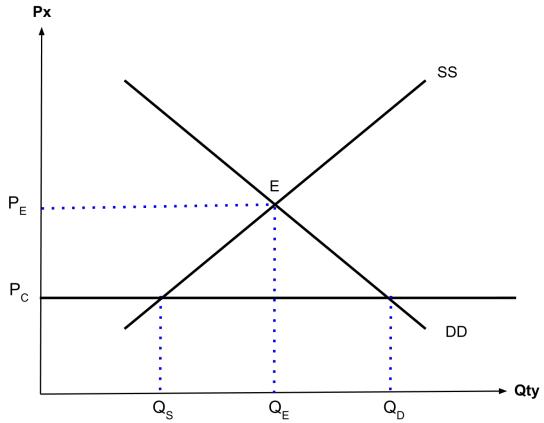
Aims:
- Achieve equity by protecting the welfare of certain groups
- Create a consistent surplus for stocks to accumulate and prepare for future shortages

Problems:
- Allocatively inefficiency (DWL)
- Distorts price signals, creating illusion of a lucrative market
  - ➢ Producers become complacent
  - ➢ May attract new producers → Create excessive surplus
- Stock storage = Waste money

Example: Minimum Wage
- The labour market is initially at equilibrium with a wage of P_E & Q_E jobs available.
- However, after a minimum wage P_F is imposed→ number of job seekers ↑ to Q_S but the qty of workers demanded by firms drops to Q_D
- Resulting a surplus of $(Q_S - Q_D)$
- $(Q_E - Q_D)$ jobs are lost
- Only a quantity of Q_D workers enjoy the higher wages.

GOVERNMENT INTERVENTION

PRICE CEILING

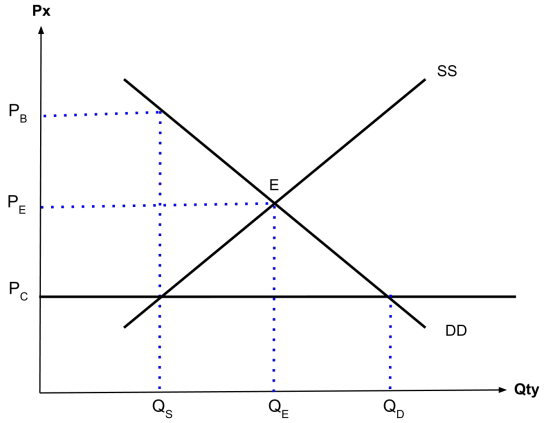


Definition:
Legally established maximum price below the market equilibrium → prohibit producers from selling above stipulated price.

Aims:
- Achieve equity by keeping prices of a good affordable to the majority

Problems:
- Allocative Inefficiency (DWL)
- Distorts price signals, unable to allocate scarce resources
- Emergence of Black Market

BLACK MARKET



Example: Rent Controls
- The market is initially at equilibrium, P_E & Q_E
- However, after a maximum price P_C is imposed → A shortage of $(Q_D - Q_S)$ arises.
- A black market may be created, where goods bought at the controlled price of P_C are sold at a higher price of P_B.

ESSAY SAMPLE

In 2012 the UK had very poor harvests for grain and potatoes, which are major ingredients of many of the foods of UK consumers and also provide feed for much of Britain's livestock. At the same time there was a decline in the real incomes of many UK citizens, especially those on low incomes.

Using economic analysis, discuss the impact these events are likely to have on UK consumers and farmers.

Interpret the Question

What is the Cue word?	What is the Concept word?	What is the context word?
"Using economic analysis" • Present 2 sided argument on pros and cons of the impact • Supporting argument with economic concepts & models	**"Impact…on UK consumers & Farmers"** • Demand & Supply concept • Consumer/producer surplus, revenue, profits, welfare etc.	**Factors affecting demand and supply in UK:** • Poor harvests • Feed for Britain's livestock • Decline in real incomes of UK, esp low income

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